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ABSTRACT

Criticisms of teacher education, the low economic and political costs of trying to reform schools by reforming teacher education, along with the difficulty of filling some teaching positions with persons certified in traditional ways, have fueled a movement to create alternative routes to teacher certification in the vast majority of states. This monograph seeks to inform the ongoing policy debate over when and for what purposes alternative certification of teachers should be employed and to develop lessons that might lead to increasing the effectiveness of both alternative certification and traditional programs of teacher preparation. Following an introduction, the publication consists of six articles: (1) "The Theory and Practice of Alternative Certification: Implications for the Improvement of Teaching" (Willis D. Hawley); (2) "Alternative Certification in Connecticut: Reshaping the Profession" (Traci Bliss); (3) "Alternative Certification: State Policies in the SREB (Southern Regional Education Board) States" (Lynn M. Cornett); (4) "Los Angeles Unified School District Intern Program: Recruiting and Preparing Teachers for an Urban Context" (Trish Stoddart); (5) "Teaching and Knowledge: Policy Issues Posed by Alternate Certification for Teachers" (Linda Darling-Hammond); and (6) "The Place of Alternative Certification in the Education of Teachers" (Gary D. Fenstermacher). Selected references for each chapter are included. (LL)

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The Alternative Certification of Teachers

Willis D. Hawley,
Editor

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The Alternative Certification of Teachers

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Note

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Introduction

Willis D. Hawley

Few recent observers of American education have had good things to say about the way Americans educate their teachers. Indeed, when policymakers turn to the reform agenda they find little opposition to efforts to regulate or punish teacher education. The criticisms of teacher education, the low economic and political costs of trying to reform schools by reforming teacher education, along with the difficulty of filling some teaching positions with persons certified in traditional ways, have fueled a movement to create "alternative routes" to teacher certification. The vast majority of states now have alternative routes to teaching and President Bush has sought to further energize this movement with federal incentive grants since at least 1990.

Experience with alternative certification has led to modifications in some state policies, and no doubt the debate over when and for what purposes alternative certification of teachers should be employed will continue. These articles seek to inform the policy debate and to develop lessons from what we know that might lead to increasing the effectiveness of both alternative certification and what we call traditional or conventional programs of teacher preparation.

This collection of articles on the alternative certification of teachers was commissioned in 1990 by the Office of Educational Research and Improvement (OERI) of the United States Department of Education. The papers were submitted to the Department in 1991 and have been revised and updated since then. One paper commissioned by the Department was withdrawn from publication by its authors, Leo Klagholtz and Ellen Schechter of the New Jersey State Department of Education. That paper is referred to but not published in this issue.

We are grateful to the Department for the support it provided the authors. Elizabeth Ashburn of OERI was the driving force in selecting the authors and defining the general topics of the papers. Moreover, she has provided each of the authors with valuable suggestions for improving their studies. We emphasize that the content of the articles does not have the endorsement of OERI nor do the articles represent the position of the Department.

This issue has benefited from the fine work of Susan Atkisson, the managing editor of the Peabody Journal of Education, and I am grateful to her for keeping us on task and for her assistance in readying each of the papers for publication.

The Theory and Practice of Alternative Certification: Implications for the Improvement of Teaching

Willis D. Hawley

Overview

What's This All About?

In the early 1980s only a handful of states had programs for certifying persons to teach who did not complete a course of study prescribed by a college or university. Emergency credentials were provided for in most states but the holders of such credentials were invariably expected to complete a "regular" course of study at an approved teacher preparation program in order to be fully certified to teach. By 1990, depending on whose count you believe, either 48 (AACTE, 1990) or 33 (Feistritzer, 1990) states provided for alternative teacher certification. And the President of the United States had made this "reform" a central element of his strategy for improving American education.

There are many reasons why alternative certification (AC) has gained so many advocates, but two of these—a practical one and a more philosophical one—seem to influence policy more than others. The movement toward AC programs in the 1980s was given impetus by the widespread concern over the long-term and seemingly intractable shortage of math and science teachers. A number of reports called for nontraditional routes to teaching as one way to deal with this problem (Stoddart & Floden, 1990). Teacher shortages are not limited to math and science, of course. Many urban and rural areas have persistent problems recruiting and retaining teachers and shortages of traditionally certified teachers are common in specialties such as special education and bilingual education (Cagapang & Guthrie, 1988; Darling-Hammond, Hud-

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son, & Kirby, 1989). This practical case for AC derives from the fact that teacher shortages, which are often greater in schools serving minority and disadvantaged children (Roth, 1986), usually have been met by filling positions with persons who are given emergency certificates and little training. Thus, it is argued, when conventionally certified teachers cannot be found, it is better to have formal programs for recruiting, preparing, and supporting prospective teachers than it is to use emergency licensing procedures to fill teaching vacancies. This argument does not challenge the assumption that conventionally certified teachers are likely to be better teachers than those certified through alternative procedures, at least in most cases. In this view, AC is seen as necessary but, generally, nondesirable. In other words, a "last resort." (For a more extensive treatment of the last resort rationale for AC, see Stoddart, in press.)

The more philosophical justification for AC holds that conventional preservice preparation is part of the problem. Those who hold this view see college- or university-based preservice teacher preparation programs as lacking in merit, and as barriers that deter many talented people from becoming teachers. David Kearns, as Chief Executive Officer of the Xerox Corporation and member of the National Board of Professional Teaching Standards, and later, Deputy Secretary of Education, put the case this way:

> As everyone knows—particularly teachers—most education courses range from dull to deadly. Education courses have such a bad reputation that many talented and energetic young people—not to mention older people—simply turn and run at the mention of them. (1990, p. 14)

One response to the argument that teacher preparation is not valuable would be to make it better—more rigorous, more relevant, and so on. But the need to improve preservice teacher preparation is not the underlying assumption of those who see traditional certification (TC) as a barrier to the recruitment of talented people. Behind this justification for AC is a view of teaching that is well articulated by Kearns (1990):

> The reason is deceptively simple—there is, as yet, no science of pedagogy the way there is a science of medicine, for example. Teaching is an art, and the best teachers report that the most valuable things they learned were not in the college classroom but the classroom in which they first taught. The luckiest report that they had mentors who showed them the ropes. (p. 14)

In other words, AC is desirable because formal preservice teacher preparation is *inherently* superfluous. This argument, which I will call the "art and craft" position, sees teaching as an essentially intuitive craft that can best be learned on the job from other teachers, especially if those teachers can be especially selected and trained for such mentor roles. Those who hold this position view knowledge of the subject to be taught and commitment to working with students as the fundamental prerequisites for effective teaching. Some teacher educators refer to this as the "Rocket Scientist" rationale for AC which is sometimes popularized by pointing out that NASA scientists, Nobel Prize winners, and Albert Einstein—among others—would not be allowed to teach in most public schools.

Somewhere in between the "last resort" and the "art and craft" justifications for AC are a number of other views. However, once AC programs encompass teaching assignments for which there is a supply of traditionally certified teachers, support for AC probably reflects at least some ambivalence about the importance of college- and university-based preparation and the relevance of theory and research to effective teaching. In this regard, it is worth noting that in some states, the last resort position initially used to justify AC has been abandoned and AC has been authorized for teaching fields where there is no shortage of traditionally certified teachers (Cornett, in press).

A Simple Definition of Alternative Certification

Alternative certification comes in many forms and these program differences are often evidence of the relative political strength of the opponents and proponents of the art and craft view of teaching and the intensity which these parties bring to the debate. Alternative certification programs can be the result of extensive study and comprehensive program design (cf. Connecticut and New Jersey) or a modest change in previous policies aimed at heading off more far-reaching AC proposals. In between these poles are many different forms of AC.

In clarifying the meaning of AC, it seems useful to recognize (or stipulate) that AC is, really, alternative licensure. More clearly than traditional teacher certification, AC is an act by the state to authorize individuals to teach. The distinguishing characteristic of AC programs is their intent to provide access to a teaching credential that essentially circumvents participation in conventional or traditional college- or university-based preparation programs (Fenstermacher, in press).

Unlike TC, where the state usually accepts the completion of college or university coursework and related experiences as evidence of qualifications to teach, certification through alternative routes is based on programs and study and experience basically defined by states and may or may not involve institutions of higher education. Where colleges and universities are involved in AC, their role typically requires significantly less time in coursework for teacher candidates than does TC. Also, coursework is not necessarily, or usually, associated with the award of a degree, even though graduate credits may be awarded for some activities (on the complexities of defining AC and the political bases for these complexities, see Earley, 1991).

I have explicitly excluded from this analysis programs that schools or departments of education define as alternatives to the conventional programs for three reasons: (a) the number and variety of such variations on conventional programs is very large; (b) virtually without exception, teacher candidates in such programs are not employed full-time, or are not the teacher of record, and usually are not paid (though some programs provide small stipends); and (c) these programs are not the focus of the debates over public policies related to AC.

Plan for the Article

With these issues and definitions setting the context for policy and practices related to AC, this article:

1. Identifies several specific questions related to the processes and consequences of AC which represent criteria by which policymakers and educators might evaluate AC.
2. Summarizes the answers to these questions that might be derived from research.
3 Proposes the key elements of a model AC program.
4. Draws some conclusions about the directions AC is likely to take and the probable effects of these on educational reform and the professionalization of teaching.

The Consequences of Alternative Certification

Overview

How one judges the consequences of AC depends, of course, on the purposes attributed to AC by its advocates, and these differ widely from state to state. I noted at the outset of this article that the justifications for AC range from a concern to fill otherwise unfillable positions (the last resort view) to a goal of replacing college- and university-based programs with on-the-job training run by state or local education agencies. Between these two positions, one can identify other goals for AC by which the effectiveness of AC may be gauged. Thus, I will propose several questions that can be used as tests of the desirability of AC.

Before turning to the questions, it should be noted that even if we could determine whether AC "worked," we would not necessarily know why it worked or how to make it work better. Unfortunately, little research on AC seeks to tie outcomes to specific processes, and there are no studies comparing the effectiveness of AC programs that have different characteristics. It is necessary, therefore, to infer why some AC programs might be more effective than others, a task I will pursue in a subsequent section of this article.

As will become quickly apparent, the available research allows few definitive conclusions about the consequences of AC. The number of relevant empirical studies are few and the issues they address and the way they address them are often different, so cumulative findings are limited. Further, the problems involved in drawing conclusions from the small number of studies that exist are further complicated by the fact that these studies, taken as a whole, are unusually weak methodologically. Thus, before turning to possible answers to the questions one might ask to determine the effectiveness of AC programs, it seems appropriate to note some of the reasons why the research, even when it addresses the right questions, yields less certain answers than are needed.

Some Limits of the Research on Alternative Certification

The weakness of research on AC impedes the development of more effective teacher preparation programs, whether "alternative" or "traditional." The fact that most assessments comparing AC to TC are seriously flawed is not surprising given the political context in which AC has come about, the inherent difficulties of evaluating program outcomes, and low levels of investment in research on AC. Some examples of the weaknesses of the research on AC are:

- Alternative certification teachers from a given district are not compared with TC teachers from that district, but with teachers statewide or nationally or some other jurisdiction that is very different from the district being studied (cf. Gomez & Grobe, 1990; Klagholtz & Schecter, in press; Smith, 1990; Stoddart, in press; Sunstrom & Berry, 1989).
- Demonstrating that, on average, AC teachers have higher test scores or grade point averages or knowledge of subject matter when such criteria are used to screen out AC applicants attests not to the superiority of AC programs in attracting candidates but to the simple fact that different requirements for entry result in different entrants. Presumably these comparisons argue as much for higher

admissions standards to TC as they do for AC (cf. Hawk & Schmidt, 1989).

- Measures of teaching performance are often administered by principals. Principals usually must commit to support of the AC program before AC teachers are assigned to their schools. And they must devote resources to mentoring and other support. They have an interest in seeing AC teachers succeed. While this may help the AC teachers, it puts the objectivity of the principal in doubt, especially when he/she is asked to compare AC and TC teachers (cf. Gomez & Grobe, 1990). The same kinds of objectivity problems arise when the mentors of AC teachers are involved in the evaluation.
- Most studies of AC do not try to systematically assess teacher performance. When such assessments do take place, they typically rely on measures that are required by the district or the state. While this is appropriate for some purposes, these measures typically focus on relatively low-level procedural skills. These skills not only tap limited dimensions of teachers' expertise, they are comparatively easy to perform in front of an audience (e.g., observers), assuming that the teachers' students collaborate.
- Some of the more interesting studies comparing TC teachers with those who enter teaching through alternate routes involve very small numbers of teachers and the reader has no way of knowing whether the teachers studied are representative of others who experience the programs involved (e.g., Grossman, 1990; Stoddart & Gomez, 1990).
- Some studies fail to distinguish between different types of programs when the data are analyzed. For example, Adelman (1986); Kirby, Darling-Hammond, and Hudson, 1989; and Cornett (in press), combine university-based programs and those organized by states or districts in drawing conclusions, although the former are often very different in content and process than the latter.

A report prepared for the U. S. Department of education by a contract research firm in Washington, DC, which may be the most widely cited study in support of AC, embodies almost all of these weaknesses (Adelman, 1986). This study draws some conclusions which appear to provide strong support for AC. For example, the report asserts that AC attracts persons to teaching whose effectiveness in the classroom is greater than that of TC teachers. This study bases its conclusions about AC "program results" on interviews with 26 participants in 10 different programs (a total of 26, not 260 interviews) and on assessments by their supervisors of the performance of 16 AC candidates in seven programs. No indication is given of how respondents were chosen. The programs studied range from New Jersey's school-based state licensure program to Harvard's mid-career program. Some are not AC programs at all but simply different models of teacher preparation. Despite the enormous variety in the programs, all interview results are collapsed into one pool. No data were gathered on TC programs or candidates.

Criteria for Assessing the Effectiveness of Alternative Certification Programs

Several outcomes by which one might judge the effectiveness of AC programs are embodied in the following questions:

1. Can AC substantially reduce the use of temporary certificates as a strategy for addressing teacher shortages?
2. Do AC programs attract to teaching persons with needed qualities and interests who would not otherwise have become teachers? These needed qualities and interests include: intelligence, subject matter knowledge, gender, maturity, race, ethnicity, and commitment to students.
3. Because certification occurs in the context of teaching and is determined by professional teachers and administrators, does AC serve as a more effective mechanism for screening out prospective teachers than do TC programs?
4. How long do people who receive AC stay in teaching, in comparison to persons who enter teaching through traditional routes?
5. How do AC and TC teachers differ with respect to the lessons about teaching they are taught?
6. How effective are TC teachers, in comparison to AC teachers, in facilitating student learning?
7. What effects do AC programs have on TC programs?
8. What effects do AC programs have on the participating schools' and districts' commitment to and support of the continuing professional development of teachers?
9. What are the relative financial costs of AC to taxpayers and to teacher candidates?
10. What effects do AC programs have on the professionalization of teaching?

In the next several pages, I will address each of these questions, except the last. It is too early to draw conclusions about the effects of AC on efforts to bring greater professional status and privilege to teaching, though I will address some ways of thinking about this issue in the conclusion of this article.

Comments on the Approach Used

The conventional approach to presenting a review of research is to draw conclusions and cite the relevant research. In the case of AC studies, citing them without explaining their limits, given the fundamental flaws of many studies, would suggest that the evidence supporting a given conclusion was adequate and reliable. On the other hand, explaining the limits of each cited study would be time-consuming.

Given the weaknesses of many studies of AC, one might responsibly argue that research-based answers to the questions policymakers and program designers often ask (or should ask) cannot be drawn. However, the AC train is out of the station and, apparently, picking up speed. I have, therefore, examined all of the studies done on alternative certification that were accessible through mid-1992 and tried to draw those conclusions that seem reasonable to me. My tests of "reasonableness" are two: (a) is the available evidence consistent across studies *and* (b) do the findings make sense theoretically. This second criterion is subjective, of course; readers are encouraged to make their own judgments about whether the answers offered here are "sensible."

Some Answers of Varying Certainty

Effects of alternate certification on the use of temporary and emergency certificates.

Question: Can AC substantially reduce the use of temporary certificates as a strategy for addressing teacher shortages?

Answer: Yes.

Discussion: AC programs in many states have focused on reducing the use of temporary or emergency certificates. And while some AC teachers are hired in lieu of TC teachers, AC programs appear to reduce—and in the case of New Jersey, virtually eliminate—the use of emergency hiring procedures (see Feistritzer, 1990; Klagholtz & Schechter, in press; Stoddart, in press). In her analysis of the characteristics of AC programs, Earley (1991) argues, however, that when they are faced by possible shortages of qualified personnel, most states leave school systems the option of employing people to teach who must meet few, if any, standards and have little, if any, preservice training. New Jersey, for example, which claims that AC has eliminated emergency certification, allows special education and bilingual teachers to be employed on emergency certificates because of chronic shortages in these fields.

Qualities of alternative certification teachers.

Question: Do AC programs attract to teaching persons with desirable qualities and interests who would not otherwise have become teachers?

Answer: Yes.

Discussion: AC programs differ substantially in their purposes and many target or focus upon prospective teachers with specific characteristics and interests. Overall, however, it seems fair to say that AC programs, in comparison to TC programs, have attracted proportionately more males, persons over 25, minorities, and persons who have majored in college in math, science, and foreign languages.

One of the virtues attributed to AC by its supporters is that it will attract to teaching more mature persons with work experiences that are relevant to their teaching. These attributions seem to be correct. However, while stories of extraordinary achievers who want to teach receive attention from AC advocates and the media, not many rocket scientists (or their expert peers) have signed up. The Kirby et al. (1989) study of nontraditional programs found that mid-career changers tend to come from jobs in the lower salary ranges, not from professional or managerial positions. It is assumed that persons who work in a given field have up-to-date knowledge about the discipline they would teach. A study of the New Jersey programs found that the percentage of AC teachers who had worked in the field related to their academic discipline varied by discipline from 11 to 44% (Natriello, Hansen, Frisch, & Zumwalt, 1990).

Further, it seems that the designers of AC programs need to be more cautious about equating background in a given discipline or type of employment with up-to-date or relevant knowledge in the presumably related subject to be taught. There are at least two types of potential problems here. First, knowledge in some fields—physics and biology come to mind—change rapidly. Second, the specific subject matter to be taught may have been forgotten or not studied at all, even if they studied the subject in college or before beginning to work. Securro, Dockery, and Nicholson (1990) found, for example, that additional study in the subject to be taught, such as plane geometry, was needed by AC candidates even though the individuals held advanced degrees.

Many AC programs require passage of the same subject matter test required of TC candidates (Feistritzer, 1991). However, passing scores typically are low. If the theory underlying the efficacy of AC is that in-depth knowledge of subject outweighs or compensates for other sources of teaching effectiveness, it may be that AC programs should impose high standards for content knowledge as a condition for entry and/or embody in their own curriculum preservice or inservice opportunities for AC participants to learn more about the subject(s) they are expected to teach.

Are older recruits to teaching better teachers? No study has focused on how older AC candidates use their experience and maturity. It seems reasonable to assume that work experience would be a valuable resource for teaching, especially in middle and high schools. On the other hand, there is also reason to believe that mid-career recruits to teaching have more fully developed conceptions of teaching and learning, which if incorrect, are difficult to undo when the context for learning to teach typically provides little opportunity for learning about, applying, and reflecting upon different approaches to teaching and otherwise working with students. The more fully developed personal perspectives on teaching are, the more difficult they are to undo or modify (see Stoddart & Gomez, 1990, and McDiarmid, 1991, for a brief review of research supporting this conclusion).

With respect to academic credentials—such as grade point averages, scores on college entrance tests, and scores on The National Teachers Examination—AC teachers tend to be stronger than TC teachers in some cases (cf. Hawk & Schmidt, 1989) but the differences here are not as pronounced as the other differences noted above (Natriello et al., 1990).

At least three things should be noted about the differences in the academic qualifications of AC and TC teachers. First, these differences in the measures of qualifications found may or may not be related to teaching effectiveness. In most cases, these differences are not great and the relationship between GPA and test scores (within the boundaries of extant requirements) on the one hand and teacher performance and effectiveness on the other has yet to be demonstrated (Hawley, 1992).

Second, AC programs are, on the whole, more selective than TC programs. Since they seek to recruit relatively small numbers of teachers, they can leave the task of filling the teaching ranks to TC programs. If the teacher candidates of more selective TC programs were compared with those of AC programs, a different picture would emerge. Further, if all TC programs were more selective, AC programs would have to be less selective in order to avoid extensive use of emergency certificates.

Third, while many AC programs attract academically stronger applicants than do most TC programs, it is not clear that school systems seek the strongest AC candidates. For example, in Connecticut, where the AC program admits only a small percentage of those who apply and has very high admission standards, only half of the candidates are placed (Bliss, in press). More to the point, in New Jersey, where the state invests significant resources in recruiting academically talented persons to the pool of AC candidates, those hired by school districts mirror the qualities of the overall pool rather than the top of the distribution (Natriello et al., 1990).

These observations are not meant to dismiss or downplay the fact that many AC programs have attracted persons who are stronger academically than have many TC programs. My intent is to raise questions about whether this reality significantly affects the quality of teaching in schools and whether it could be sustained if greater use were made of AC in places where it is now used.

Effects on the quality of those continuing in teaching.

Question: Do AC programs serve as a more effective mechanism for determining prospective teachers' ability to teach than do TC programs?

Answer: Apparently not.

Discussion: Some advocates of AC believe that "employment-based preparation [will] enhance the quality of final licensing decisions by incorporating information on candidates' actual job performance" (Klagholtz & Schechter, in press). It might also be argued that career teachers and administrators will be tougher judges of the qualities of prospective teachers than the professors of education and state officials who make certification decisions in TC programs.

In New Jersey, 98% of AC candidates are approved for licensure (Klagholtz & Schechter, in press). Evidence from Dallas suggests a similar pattern, in part because initial screening decisions that are more selective get revised upward (Stoddart & Gomez, 1990). It may be that school systems are more disposed to fail student teachers than 1st-year teachers, perhaps because the latter have stronger advocates or were selected initially by the person with responsibility for evaluation.

The licensure rate in other programs has not been reported. Nor is the rate at which TC programs deny candidates certification available. It seems fair to say, however, that a two percent failure rate, if attributed to TC programs, would be judged as evidence that these programs have low standards and are nonselective.

In most school systems, supervising teachers and principals give almost all AC and TC teachers high marks. Thus, few 1st-year teachers are terminated regardless of whether they enter teaching through AC or TC routes or regardless of their relative performance as teachers.

Turnover (attrition) of beginning teachers.

Question: How long do people who receive AC stay in teaching in comparison to persons who enter teaching through traditional routes?

Answer: Attrition during the first 1 or 2 years of teaching seems to be somewhat lower among participants in AC programs than among TC teachers. There is no definitive research comparing the rate at which AC and TC teachers leave the profession after their first 2 years of service.

Discussion: While most of the research on the comparative attrition of AC teachers from the profession suffers from debilitating methodology, there is little reason to believe that AC teachers, on average, are more likely to leave teaching than TC teachers. Stoddart and Gomez (1990) found that AC teachers in Dallas were more likely to pursue a second year of teaching than were 1st-year teachers statewide. McKibbin (1988) reported that the attrition rate for 1st-year AC interns in Los Angeles was half that of other beginning teachers in that district.

Considering teachers (excluding former teachers) prepared in a variety of nontraditional programs, Kirby et al. (1989) found that a higher proportion of teacher candidates from nontraditional programs entered teaching and 75% were still teaching 2 years after program completion, compared to 60% of those who were certified to teach through conventional bachelor degree programs. These researchers note, however, that the programs they studied prepared math and science teachers who have exceptional employment opportunities. Moreover, in this study, nontraditional programs include many university programs that were different from AC programs initiated by state and local agencies. Stoddart and Floden (1990) have pointed to the relatively high rate of turnover among alternatively certified vocational education teachers (for whom what is now called AC is "traditional") to suggest that AC may not be an effective long-run recruitment device. Generalizing from this evidence is problematic, however, given the differences between the contexts of vocational subjects and the rest of the curriculum.

People pursue AC for many reasons. Judging by reports in popular magazines and some research, it may be that AC candidates are motivated more by altruism than are typical TC teacher candidates (Stoddart & Gomez, 1990). On the other hand, such altruism often may be of a romantic sort bred by the candidates' sense of *noblesse oblige*. Traditional certification candidates often have the opportunity to observe and study education in different settings before committing themselves to teaching. Many AC teachers have little exposure to contemporary classrooms and the image they have as rescuers (what some observers have described as the "Peace Corps mentality") may lead to early disillusionment as the reality of the difficulties of teaching children—who usually bring the consequences of poverty and social disorganization to their classrooms each day they come to school—becomes apparent.

It does appear that AC teachers lose more self-confidence during their first year than do TC teachers. Such changes in disposition may be predictors of subsequent attrition (Lutz & Hutton, 1989). But we do not know. Following particular teachers through their careers, even for short periods of time, is difficult and costly research.

It seems likely that the attrition rate among AC teachers for whom teaching is a first profession will be significantly higher than for AC teachers for whom teaching is a career change (Kirby et al., 1989). Indeed, some AC recruitment programs, such as "Teach America," emphasize the short-run nature of the commitment they ask candidates to make. Some studies of mid-career changers emphasize the importance of attrition rates to the districts' recognition that such teachers have different needs and expectations than do teachers for whom the classroom is their first work place (Crow, Levine, & Nager, 1990).

It is not surprising that AC teachers have at least as much short-run interest in continuing to teach as do TC teachers because one of the major reasons given for the attrition of TC teachers is the isolation and lack of support they experience in their 1st year (Veenman, 1984). Alternative certification programs usually reduce such isolation by providing some measure of support during the first year of teaching.

The professional knowledge base of alternative certification and traditional certification programs.

Question: Do AC and TC teachers differ with respect to what they are taught about teaching in their preparation programs?

Answer: Yes.

Discussion: Most AC programs claim to cover most topics taught in TC programs. In practice, AC programs typically focus on specific teaching and administrative methods and give little attention to research or theory (cf. Stoddart, in press). Moreover, AC candidates in district-run programs tend to be trained in the school's or district's "one best way" of teaching.

During the *preservice* period of preparation, AC teacher candidates are less likely to experience modes of training that (a) give them much opportunity to practice what they are being taught, or that (b) model the teaching strategies they are being urged to use. Traditional certification candidates typically have a greater proportion of their preservice professional training devoted to practical applications and are likely to experience different models of instruction.

Of course, if one considers the 1st year of teaching to be part of an AC teacher candidate's preparation period, the AC teacher gets more practical experience than the TC teacher though the TC candidate will probably receive more supervision and coaching than the AC teacher through practice teaching and field-based experience. Traditional teacher certification candidates are also more likely to have the opportunity to discuss the relationship between their teaching experiences and the theory and research to which they were exposed in their preparation courses.

During the school year, issues covered in AC programs tend to be dealt with in context-specific ways. Seminars focus on immediate problem-solving needs and serve to provide AC teachers with social support and encouragement. Comparison of different strategies are seldom studied and the supervision by mentors seldom links what the new teacher is learning on the job to their previous learning experiences.

Overall, TC teachers typically are exposed to a broader range of information about teaching and to more theory and research than their AC peers. They are taught a broader range of teaching strategies which tend to be presented more or less abstractly because the candidates will teach in many different contexts. During their 1st year on the job, TC teachers may receive less practical and less focused information than AC teachers about teaching and have less feedback about their teaching performance, assuming that the mentoring provisions of AC programs are implemented effectively. This last assumption is, however, problematic.

The personal perspectives about teaching and students that prospective teachers bring to learning to teach, whether they participate in AC or TC programs, exerts considerable—perhaps dominant—influence on what teachers learn and how they implement what they learn (Grossman, 1990; Lortie, 1975; Zeichner & Tabachnick, 1981). For this reason and others, teacher educators have begun to emphasize "reflective teaching" and "problem solving" approaches to instruction. These approaches encourage and seek to enable teacher candidates to consider and experiment with different strategies and to identify and examine the implications of their own predispositions and mental images of teaching (Cruickshank & Mitchell, 1990; Fenstermacher, in press; Liston & Zeichner, 1991). In an intensive analysis of three TC English teachers and three English teachers who did not participate in a teacher preparation program, TC teachers were judged to be more responsive to student needs and more capable of and interested in dealing with students' misunderstanding of the material. The untrained teachers relied heavily on texts and based their instructional choices on their own knowledge of the content rather than on their students' understandings (Grossman, 1989). While these are exactly the differences teacher educators would claim for TC, there is no way of knowing how representative are either the teachers studied or their preparation experiences.

While it is not clear whether the relatively new interest in reflective teaching and problem-solving approaches to teaching will catch on or whether they will have the intended effect on teacher practice, it seems unlikely that AC programs will be interested in or capable of teaching reflective teaching. The process seems to require being able to get some distance from the immediate influences on teaching behaviors, lots of emphasis by faculty, guided practice in alternative methods and reflection on them, and time. No description of an AC program attributes such characteristics to AC routes. Thus, for better or worse, the perspectives about teaching and students that AC teachers bring with them as they enter a teaching career are likely to be the perspectives they act on when they teach.

Effects of alternative certification programs on teachers' effectiveness.

Question: How effective are TC teachers, in comparison to AC teachers, in facilitating student learning?

Answer: The research on AC programs does not provide good evidence on this question. Studies which rate the performance of AC and TC teachers tend to show little difference in ratings and there is little research on whether the students of AC and TC teachers achieve at different levels.

Discussion: In their review of research conducted through 1984, Evertson, Hawley, and Zlotnik (1985) found that the performance of teachers who were certified in TC programs was almost always rated higher by principals, supervisors, or other educators than was the performance of teachers who had not graduated from a college-based preparation program.

While this finding supports the proposition that preservice teacher preparation adds to what teachers learn on the job, applicability of this finding to the debate over AC is limited because most of the teachers not certified by traditional means who were studied had not participated in the formal preservice and inservice activities that characterize the AC programs supported by recent state policies.

Studies which compare the evaluations of the teaching practices of both AC and TC teachers are, taken as a whole, mixed in their findings and the available evidence does not allow one to conclude that either AC or TC programs are superior in their ability to attract and prepare effective teachers. Where differences are found in teaching performance, the differences are not usually very great (Bliss, in press; Cornett, in press; Guyton, 1990; Lutz & Hutton, 1989; McKibbin, 1988).[1] Because most observers' ratings of new teachers tend to be high, evaluations of performance usually provide little basis for distinguishing among teachers regardless of their certification route. Moreover, the measures of teacher performance used typically are relatively mechanical and simple so that more sophisticated teaching strategies are not assessed (Grossman, 1990).

In other words, for various reasons, assessments of teacher performance seldom provide information that is meaningful and that differentiates very good teachers from satisfactory teachers. This reality is nicely illustrated by comparing two studies reporting on the same sets of teachers. Mitchell (as reported in Lutz & Hutton, 1989) asked principals to directly compare AC and TC candidates. He found considerable ambivalence among principals about the desirability of AC (although they agreed concerning the necessity). In response to questions on a questionnaire, principals rated TC teachers as more knowledgeable than AC teachers on virtually all aspects of teaching. However, in a different study, Lutz and Hutton (1989), questioned the same principals and found that AC and TC teachers were rated very positively. Sunstrom and Berry (1989) also found somewhat inconsistent assessments of TC and AC teachers. In this South Carolina study supervisors and principals rated TC teachers better at classroom management and teaching hard-to-teach students but ranked the training of TC teachers very low. Thus, studies that report that *attitudes* of career teachers and principals toward participants in AC programs are usually positive (Securro et al., 1990; Sunstrom & Berry, 1989; Wale & Irons, 1990) may not be very instructive.

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[1] While the Connecticut study (Bliss, in press) uses an inappropriate comparison group—one which includes private school teachers switching to public schools and former TC teachers with less than 3 years experience returning to teaching—the composition of the group seems unlikely to result in biasing the comparison in favor of AC teachers.

The main reason advocates of AC give for claims that AC will enhance student learning is that AC teachers know their subject matter. Earlier in this article I noted that one cannot assume that majoring in a subject some time ago or working in a relevant field means that the candidate has the knowledge of the mathematics prescribed in school curricula. It is the case, however, that most TC teachers who are certified to teach a specific subject know that subject.

A comparison of AC and TC high school teachers in Los Angeles found that students who majored in mathematics (AC teachers) had no stronger knowledge of mathematics than TC teachers who majored in mathematics education (Ball & Wilson, 1990). The National Center for Research and Teacher Learning (NCRTL) comes to a related conclusion: "Majoring in an academic subject in college does not guarantee that teachers have the specific subject matter knowledge needed for teaching" (NCRTL, 1992). On the other hand, the Los Angeles study also found that TC teachers were not noticeably better at explaining key mathematical concepts than AC teachers.

It seems important to recognize that knowledge of subject matter measured by conventional multiple choice type tests or exercises, or by grades, is not strongly related to teacher effectiveness, not only because understanding of a subject is a necessary *but* insufficient condition for effective teaching, but also because typical test scores and subject matter grades do not measure understanding (cf. L. Shulman, 1987). Citing "mounting" evidence in both physics and mathematics, McDiarmid (1991) concludes that:

> . . . all students, not just those intending to be teachers, can meet instructors' expectations for satisfactory work without developing a

> conceptual understanding of the subject matter—the lack of which, we have argued, seriously inhibits teachers' capacities to help school pupils learn in ways that are meaningful. This is, no doubt, unsurprising: Many of us, I would hazard to claim, have had the experience of cramming for an exam and doing well and, yet realizing that we really did not understand much of the information and procedures with which we stuffed our memory. (p. 27)

A strong case can be made for the relative effectiveness of TC in preparing persons to use and develop sophisticated instructional strategies, especially those that would foster higher order learning and would meet the needs of children who have not been achieving in school (see Darling-Hammond, in press). But, as of the end of 1991, no study had examined the effectiveness of new teachers certified through good AC and TC preparation and induction programs who were teaching similar students under similar conditions.

Effects of alternative certification programs on traditional approaches to certification.

Question: What effects do AC programs have on TC programs?

Answer: It appears that a number of TC programs have been modified.

Discussion: AC programs (a) probably have engendered more field-based, intern-type postbaccalaureate programs in colleges and universities, but have had little effect on the programs through which most colleges and universities prepare teachers; and (b) increasingly have involved universities and colleges as collaborators as the AC programs mature (Cornett, in press).

There appears to be one case study of a TC program in a university that served as a site for AC candidate preparation. This study (Nichols, Amick, & Healy, 1992) concludes that the AC program was one of several influences that led to significant changes in the TC program. The causal link between the growth of AC programs and changes in TC programs is difficult to establish. It is clear, however that field-based courses and extended periods of practice teaching are more common now at colleges and universities than they were before AC became a major issue in teacher education (cf. Hawley, Austin, & Goldman, 1988). But these changes occurred in states with no AC programs, too.

Effects on commitments to the continuing education of teachers.

Question: What effects do AC programs have on the participating schools' and districts' commitment to and support of the continuing professional development of teachers?

Answer: Existing research does not address this question.

Discussion: It seems possible that in accepting the responsibility for preparing AC teachers to teach, school systems might develop a greater commitment to and capacity for enhancing the professional development of all teachers. If this has happened, however, it has gone unreported by observers of AC programs. It does appear that some AC teachers do not receive the support during their first year that is provided for in program guidelines (Smith, 1990). To the extent that this finding applies generally, it suggests that AC does not derive from or lead to general commitments to professional development.

The relative costs of alternative certification programs.

Question: What are the relative financial costs of AC to taxpayers and to teacher candidates?

Answer: It probably costs the taxpayers about 75% more to prepare a teacher in a well-designed AC program than in an undergraduate TC program. However, the per-teacher cost of an AC program is about 25% less than that of a traditional postbaccalaureate certification program. The costs to the candidate of being certified is highest for the participant in a traditional *postbaccalaureate* program and lowest for the teacher certified in traditional undergraduate programs.

Discussion: The costs of AC programs seem to have played no role in the debate over their desirability, and there do not appear to be any studies that actually compare the costs of specific AC and TC programs, much less their relative cost effectiveness. It seems possible, however, to compare the taxpayers' costs of the three types of programs for certifying teachers: traditional undergraduate certification, 1-year postbaccalaureate (which would be the same as 5-year "extended" programs), and a well-designed AC program. Such a comparison, and the relevant assumptions and calculations, is spelled out in the Appendix.

The Likely Growth of Alternative Certification Trends in Certification of Teachers Through Alternative Routes

The best data available on the numbers of persons issued AC certification provide evidence of certification patterns over time in only 14 states (Feistritzer, 1991). In the 11 states where 50 or more certificates have been awarded in any of the 5 years between 1985 and 1989, the number of AC teachers has increased in 7 of the states. There has been no discernable trend in 2 states and the numbers have decreased in 2 other states.

While the number of new teachers who enter the profession through AC remains very small nationally (Feistritzer, 1991), it seems likely to increase. As noted at the outset of this article, the number of states permitting AC quadrupled in the 1980s, and other states are likely to authorize AC. Moreover, restrictions on who can participate in particular AC programs have been eased (Cornett, in press). Thus, program expansion should lead to greater proportions of those being licensed to teach through alternative routes.

Influences on the Likely Increase in Alternative Certification

There are several conditions and developments that seem likely to contribute to a growing interest in AC by both politicians and prospective teachers. These include (a) promotion and other support by influential advocates, (b) continuing teacher shortages in particular communities and fields, (c) the increasing number of TC programs that are requiring postbaccalaureate preparation, (d) the lack of consensus about research-based knowledge for teaching, (e) uncertain demand for the graduates of quality preparation programs, (f) the substitution of AC for emergency certification, and (g) the simplistic way that teacher effectiveness is usually assessed.

Support for the implementation of alternative certification programs. The promotion of AC programs by state and federal officials not only creates opportunities for prospective candidates, it sometimes leads to actions on behalf of these programs that are not undertaken in support of TC programs. In New Jersey, for example, the state engaged in extensive out-of-state recruitment efforts in other states and provided scholarships to attract candidates (Klagholtz & Schecter, in press). Should federal funds be allocated to states to establish AC programs, as President Bush has proposed, some of these resources will undoubtedly go to further decreasing the costs of entry to teaching through alternative routes.

Continuing teacher shortages. Attracting candidates to areas of teacher shortages through AC does not alter most of the conditions which contribute to the shortages—such as low salaries, poor working conditions, and status of teaching as a profession. Thus, it can be expected that the demand for teachers in certain urban and rural areas, mathematics, some sciences, special education, and bilingual education will continue to exceed the supply.

The growth of extended preparation programs. Should the number of states and universities requiring a 5th year of college *before* a person is allowed to teach increase, as it appears it will, the costs of entry to the profession will increase (Hawley, 1990). As entry costs increase, the incentives prospective teachers have to take advantage of AC programs will also increase. Darling-Hammond (in press) points to several studies that demonstrate that one of the major reasons that AC programs are attractive to well-qualified candidates is that AC programs minimize the financial costs of becoming a teacher.

The lack of consensus about the knowledge base for teaching. Effective teaching continues to be seen by many policymakers, civic leaders, and intellectuals as the product of intuition and imagination, knowledge of subject matter, and interest in students, rather than the result of technical or professional expertise related to knowledge about teaching and learning. The persistence of these beliefs undermines the case for college- or university-based preservice teacher preparation. The prospect that teacher educators *and teachers* will be able to identify and agree upon some comprehensible core of research-based knowledge that explains variations in teaching effectiveness seems distant.

The absence of markets for quality with respect to the hiring of new teachers. While there is considerable interest in improving the preservice education of teachers, most reforms being implemented have focused on the supply side of the market for talent. There is substantial reason to believe that many school systems pay little attention to evidence of the qualities in teachers that supply side reforms seek to secure or to the quality of the programs in which teacher candidates are prepared (Wise et al., 1987). For example, despite extraordinary efforts by the state of New Jersey to recruit AC candidates with strong academic credentials, the candidates actually selected by school systems, on average, were from the middle range of the academic qualifications of those in the selection pool rather than from the top one-third or one-fourth of the candidates (Natriello et al., 1990).

If differences in teacher candidates' qualities and education do not systematically matter in hiring decisions, claims by TC advocates that they prepare better teachers are unlikely to have much consequence in determining who is hired. This is not to assert that TC teachers are better. The point is that if variations in preservice teacher education, of which AC is one, do not have much affect on employability, TC teachers will have no advantage over AC candidates and the perceived incentives to pursue TC will decline.

Teacher certification rules. To the extent that states create specific regulations governing TC, they will discourage some well-qualified candidates from entering TC programs. Regulations regarding types of courses required or time spent in field experiences make it difficult for candidates to qualify or seem to be unreasonable, especially for college students who decide to become teachers in their senior year or later. Moreover, variations in regulations across states, in the absence of reciprocity agreements, not only constrain the market for TC teachers, they may confuse potential TC applications and increase the attractiveness of AC.

Simplistic evaluations of alternative certification programs. If TC develops more sophisticated and effective teachers, as its advocates claim, current procedures used to evaluate AC are unlikely to demonstrate this (Grossman, 1990). As noted earlier, the measures of teacher performance used in most evaluations assess relatively low levels of teaching competence and yield little difference in measures of behavior. Moreover, most assessments are conducted by persons who have a stake in positively evaluating the performance of AC candidates. Further, to understand the relative contributions AC and TC might make to what teachers are able to do to facilitate student learning, it seems essential to compare the performance of beginning AC and TC teachers who have mentoring support. Usually, TC teachers receive much less assistance although almost everyone who seeks to improve both teacher preparation and teaching endorses the provision of mentor support to all new teachers.

High quality evaluation of the comparative performance of AC and TC teachers may or may not demonstrate the relative efficacy of TC programs. Simplistic and methodologically weak evaluations, however, are likely to minimize discovery of whatever advantages TC programs might have and, thus, will tend to support the advocates of AC who argue that professional preparation to teach is, in effect, an oxymoron.

Slowing the alternative certification movement. For the several reasons just noted, there are likely to be gradual increases in the proportion of new teachers who are certified to teach through alternative programs. Teacher educators and, to a lesser extent, teacher organizations, have sought to limit AC by political action. There are other ways to slow the AC movement. Six of these strategies relate to addressing the last six factors I just identified as sources of energy for AC (the first is political). A seventh is to improve TC—substantially.

Speculation on the Effects of Alternative Certification on the Improvement of Teacher Education, Teaching, and Schools

It should be clear from what has already been said about the quality and quantity of available research that judgements about the effects of AC on teacher education, teaching, and schools are necessarily speculative. Nonetheless, such speculation seems a worthy pursuit given that the policy debates about how much to rely on and support AC are not likely to dissipate.

Improving Teacher Education?

Advocates of AC argue that there are ways that AC could lead to the improvement of what I have referred to as TC of new teachers—competition and demonstration.

Competing models of teacher preparation should lead to improvements in overall quality if those who employ the "graduates" of different models believe that the differences explain differences in teacher effectiveness. As noted earlier, there is little reason to think that a careful search for the "products" of different teacher preparation programs characterizes the hiring of new teachers in many schools. If this observation is correct, one explanation might be that employers have little reliable information about the content of different teacher AC and TC programs or about the qualities of the job candidates they consider. This absence of information could be addressed by state education agencies and by the teaching profession, including teacher educators.

To the extent that AC programs have influenced changes in TC, it appears that such changes have involved increases in the number of field-based courses and experiences. There is little evidence, however, to believe that increasing such "practical experiences" will improve teaching and some reason to believe that it may be counterproductive overall (Hawley, 1990). "Improvements" that make no difference further skepticism about the ineffectiveness of TC. And the more TC programs look like AC programs, the less reason there is for participating in them.

Direct competition is not the only potential way that AC could contribute to the improvement of TC. Alternative certification has helped draw attention (a) to the importance of supporting new teachers with effective mentoring, (b) to some of the characteristics of mentoring that are important, and (c) to the contributions mentoring can make to the professional development of both novice and mentor teachers.

More fundamentally, AC may contribute to the effort by some teacher educators and the professional teacher associations to question whether the roles and functions colleges and schools play in the education of teachers should be changed and realigned. For example, one might read the evidence on the effects of AC as suggesting that some skills now taught to preservice teachers in TC programs could be taught more effectively on the job by well-trained mentors and mentoring teams. For example, Robert Houston and his colleagues (1990) compared evaluations of AC and TC teachers throughout the 1st year of teaching. In the first few months, the TC teachers were judged to be significantly more effective. Through the year, the gap in the evaluations narrowed until it disappeared several months later. The researchers concluded that the students of the AC teachers had borne the cost of training these teachers. But another implication of this finding is that if schools accepted the responsibility, and developed the necessary capabilities, they might be the best sites in which to learn the practical skills of teaching.

Will Alternative Certification Improve Teaching?

There are four general strategies for improving teaching: (a) recruit to and retain in teaching people with more of the knowledge and personal qualities we seek in our teachers, (b) increase the knowledge and expertise of those who are recruited, (c) motivate teachers to work harder and make greater efforts to enhance their professional expertise, and (d) restructure the conditions under which teachers teach so that the outcomes of the first three strategies can be fully utilized. Alternative certification seeks to change the qualities of the persons recruited to teaching but does not, in itself, address retention or the goals of the other types of strategies for improving teaching. Alternative certification programs aim at reducing the costs of entry. Increasing the benefits of teaching—by raising salaries and improving working conditions—is much more expensive than reducing entry costs, a fact that may be one reason for AC's growing popularity.

Reducing entry costs to teaching without increasing the benefits of teaching seems likely to have only a marginal effect on quality and to do little to reduce the overall rate of attrition from the profession. Indeed, theory suggests that low entry costs are likely to increase the probability of exit (Hirschman, 1970). The potential long-term effects of AC on the benefits of being a teacher have not received much attention. Perhaps these new recruits will be more militant in the pursuit of benefits, or perhaps they will command more respect than TC teachers and thus contribute to increasing the benefits. Such claims, however, seem reasonably limited to AC teachers who are mid-career changers.

Most AC programs enacted by states seek to recruit career teachers. But many candidates may come to teaching with the idea of *serving* for a year or two. As noted earlier, *Teach America*, for example, brings hundreds of young people into AC routes to teaching each year by focusing on the idea that teaching is not a career choice but a chance to do good for a short time. In the 1st or 2nd year of teaching, however, teachers typically are noticeably less proficient than they are in the next few years (Murnane, Singer, Willett, Kemple, & Olsen, 1991).

Teacher salaries, of course, are an important reason why some people choose not to teach and others choose to leave teaching. Wages and salaries in most labor markets are driven by the supply and demand for the knowledge and skills the market requires. This has been less true in education for a number of reasons, not the least of which is the willingness of school systems to employ unqualified workers on putatively temporary or provisional bases. One effect of AC is that many positions that might have been filled by these uncertified personnel will be filled by AC teachers. While this almost surely has a positive effect on the quality of the teaching force, it also reduces the effect that shortages of qualified teachers might have on driving up the salaries of teachers.

Critics of AC argue that AC undermines efforts to enhance the professional status of teachers. This remains to be seen. As I have argued elsewhere (Hawley, 1989), occupational status depends on many things and specialized training is only one of them. To the extent that attributions of expertise contribute to occupational status, AC is likely to shift the basis for professional standing from pedagogical expertise to depth of subject matter knowledge, as is the case for college teachers. If this were to occur, it would likely lead to a status schism between elementary school teachers on the one hand and middle and high school teachers on the other (and undermine the middle school movement). Even if elementary teachers were required to major in a academic discipline, their work would not be seen as making much demand on this knowledge.

Teacher educators have argued that AC will weaken the ties between schools and institutions of higher education and thus diminish the status of teaching. It does seem reasonable to argue, as I implied earlier, that AC will reinforce the idea that theory and research are not strongly related to effective teaching. If this prediction is correct, the reasons for collaborations between schools and colleges will be diminished. This may not reduce the status of teaching but it is likely to reduce whatever contributions higher education can make to the improvement of teaching and schools.

The Improvement of Schools?

One of the continuing debates in teacher education is whether teachers should be prepared for the schools we have or for the school we need (as defined by would-be educational reformers). Understandably, state and school system guidelines relating to AC focus on the implementation of particular models of instruction, curricula, and administrative procedures that are in place. And, as I pointed out earlier, the curricula of AC programs do not give much attention to the importance of theory, critical analysis, or alternative models of instruction. Thus it seems reasonably safe to say that AC programs resolve the teacher educator's dilemma—they prepare teachers for the schools we have.

Speculation Is Guesswork

The observations I've just offered are guesses influenced by my biases and convictions. It is surely too early to know the effects of AC on the quality of American education. Moreover, we cannot look at other countries for guidance here because none have seriously pursued the AC path to school improvement. Supporters of AC will argue that AC reflects the United States' willingness to innovate. Opponents will argue that trying to catch up with countries that appear to do a better job educating their children by pursuing strategies these countries have rejected reflects a lack of commitment to education more than it provides evidence of inventiveness.

Whatever one's assessment is of the future consequences of AC, AC is with us and affects very large numbers of children. It seems reasonable, therefore, to try to increase the contributions that AC can make to improving the quality of education by improving the programs themselves.

Improving Alternative Certification

Priorities

A list of ways to improve AC would be a long one, just as the list of ways to improve TC would be extensive. My nominations for the three highest priority improvements are: (a) increase the amount and quality of mentoring; (b) provide AC participants more opportunities to witness, practice, and reflect upon proven teaching strategies; and (c) enhance the *capabilities* teacher candidates have to learn about teaching.

Increase the quality of mentoring alternative certification teachers receive. There is considerable agreement among observers of AC programs (including AC teachers) that the key to program effectiveness is the quality of mentoring candidates receive. There is, however, good reason to believe that the quality and quantity of mentorship AC teachers receive varies widely even within programs (Huling-Austin, 1987; J. Shulman, 1989; Smith, 1990; Sunstrum & Berry, 1989). There are several reasons why the quality of mentoring and assistance new teachers receive often falls short of their needs (cf. Little, 1990):

1. Mentors have inadequate training.
2. Mentors do not feel comfortable providing advice that implies criticism; they prefer to provide encouragement and friendship rather than education.
3. Alternative certification teachers do not ask for help when they need it and/or may not recognize that they need help.
4. Mentors do not teach the same subjects or grades as the AC teacher.

5. Mentors do not do the job assigned to them because they do not have the time or do not feel that it is rewarding.

6. There is little connection between the lessons new teachers learn during the preservice and inservice stages of their preparation.

7. Mentors see their primary role as the teaching of survival skills or the provisions of social and emotional support rather than that of a teacher educator.

8. Mentoring is defined as a one-on-one activity similar to an apprenticeship rather than the responsibility of a team or, ideally, the entire faculty in a beginning teacher's school.

Alternative certification programs would contribute considerably more to the improvement of teaching and schools if they sought to address these common weaknesses in mentoring.

Creating richer learning opportunities. Some observers of AC programs have pointed to the discontinuity between the form and substance of AC programs. That is, few programs appear to make a conscious effort to model the teaching strategies they advocate either in the preservice preparation period or during the first year of teaching.

Though descriptions of preservice stages of AC programs are limited, many programs appear to confuse teaching with telling. The concern among program designers that interns get all they need to know, defined differently from program to program, seems to push the preservice curricula toward an encyclopedic format emphasizing the transfer of information through traditional lecture, discussion, and reading modes of instruction.

This "jug and mug" approach to the facilitation of learning probably reinforces the conceptions many students have of teaching from their own experiences as students. Unfortunately, these conceptions do not fit the research on effective teaching.

Almost all sophisticated observers of effective teachers attribute some of the teachers' success to their ability to employ a repertoire of instructional strategies to the different and varying needs children have. The acquisition of knowledge about the understanding of different approaches to teaching should be incorporated into a planned set of learning strategies that cover the 1st year or 2 of teaching and opportunities that include engaging in critical analysis. Of course, it is important to have access to a variety of exemplary approaches to teaching, something made difficult if one is only observing one's immediate colleagues. One of the most powerful ways for novice teachers to learn is to witness experts, practice what they have observed, and experience the consequences. To the extent that knowledge about different ways of teaching can be linked to theory and research, the novice's ability to use them effectively will be enhanced.

Learning how to learn about teaching. The fundamental logic of AC is that one learns to teach by teaching. It appears that most teachers believe that experience was their best teacher (Bacharach, Bauer, & Shedd, 1986). The idea that one learns best from experience has a nice feel to it. While it is true that we learn many important and useful things from experience, it is also true that (a) we learn things that do not work (we continue to make the same mistakes or to do a task less well than it can be done), and (b) many of the lessons our experiences provide us go unperceived. There is abundant research on virtually all forms of human endeavor that shows what poor learners most of us are when experience is our only teacher, including research on the usefulness of experience as a source of learning to teach (Feiman-Nemser & Buchmann, 1985).

The fact that "life" is not, in itself, a reliable source of expertise does not, of course, provide support for TC or undermine the theoretical case for AC. It does suggest, however, at least two things that should characterize the preparation of all prospective and beginning teachers. First, such preparation should include learning about how to learn to teach, especially how to learn from experience. Second, would-be teachers should receive a lot of support in understanding the reasons for and consequences of the ways they try to facilitate student learning. It appears that few AC programs have such characteristics and that ways of achieving these goals are increasingly part of the agenda for teacher educators (cf. Houston, 1990; Reynolds, 1989).

Testing the Purposes of Alternative Certification

These three general proposals for improving AC would, if implemented, represent major changes in most AC programs. The willingness of advocates of AC to urge that we invest in them, both with respect to the resources and organizational changes they will require, may test whether AC is seen as a really important source of educational improvement worthy of a prominent place on the reform agenda or whether it is yet another symbolic, low-cost manifestation of our low-level national commitment to children.

Appendix

The Taxpayers' Cost of Alternative Certification Compared to Traditional Certification

First, let us stipulate some assumptions:

1. All tuition costs will be paid by the teacher candidate.
2. A state subsidy will go to institutions of higher education at the rate of $200 per credit hour (per conventional funding formulas).
3. In assessing the cost of forgivable loans, only 2 years of such loans will be available to undergraduates.
4. Graduate students and AC candidates will be eligible for and will use need-based federally guaranteed student loans.
5. Mentor teachers will be released from teaching one hour each day to provide support for AC students and substitutes will be hired to do their job (if the cost calculated here were used as a stipend, the taxpayers' cost would be the same).
6. The first year of teaching in AC programs will qualify the AC candidate for advancement on the salary scale; TC post-baccalaureate students will receive a master's degree and the salary increment associated with it.
7. The first 124 credits of undergraduate coursework is assumed for all types of programs.
8. Mentor teachers will receive 5 days of training at $200 per day (includes expenses); program costs for training will be $5,000 for the week.
9. State and local investments in induction programs for TC teachers will continue to be negligible.
10. The rate of attrition from teaching will be the same for each approach to certification.

It should be noted that AC candidates will receive full salary during their 1st year of teaching. But this is not a cost of the AC program because teachers are filling positions that would otherwise be filled by TC teachers who were fully paid.

The numbers used in Table 1 analyses (following) are hypothetical but represent approximate costs in many states.

In addition to the costs noted in Table 1, states must absorb the costs of administering the AC program. Since there are no data available on such costs, I have not included them in the computations above. If President Bush's proposal to provide federal funding to support AC is successful, the taxpayers costs for AC will grow accordingly.

Table 1
Taxpayers' Costs Per New Teacher of Different Types of Teacher Preparation Programs

Cost Item	*UGTC*	*AC*	*Post-Baccalaureate TC*
Credits Taken Beyond 124	10 @ $200 = $2000	24 @ $200 = $4800	36 @ $200 = $7200
Release Time for Mentors	——	200 hr @ $10 = $2000[a]	——
Forgivable Loan @ $2000/Year	$4,000	$ 2,000	$ 4,000
Subsidy to GSL of $5000	——	500	500
Training of Mentor Teachers	——	1,335	
Additional Salary Paid for Masters Degree	——	——	1,700
	$6,000	$10,635	$13,400

[a] This assumes that a low cost substitute teacher fills in. If one-seventh of the salary were considered a replacement cost, the cost of a $30,000 mentor teacher would be at least $4200.

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Alternate Certification in Connecticut: Reshaping the Profession

Traci Bliss

Background

After years of planning, the Connecticut Education Enhancement Act won legislative approval in 1986. Education Commissioner Gerald Tirozzi's simultaneous emphasis on increased salaries and more rigorous professional standards was the theme of the comprehensive reform package. The Act provided for more than $300 million over a 3-year period to be drawn primarily from surplus funds rather than from the normal revenue structure. The Alternate Route was one of several components of the reform designed to upgrade the profession and the only program placed specifically under the auspices of the Department of Higher Education.

In January 1990, 3½ years after the Enhancement Act went into effect, the Hartford Courant ran a front-page story on the teacher glut in

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Connecticut, pointing out that it was not uncommon to have more than 100 applicants for a single public school opening (Frahm, 1990). Even traditional shortage areas such as mathematics and physics had many would-be teachers waiting for jobs. In spite of this unprecedented teacher surplus, alternative certification continued to thrive, with more than 300 applicants competing yearly for 100 places in the full-time, noncredit program.

The attraction of the program may lie in the reason it was established. In many other states the dual purpose for creating alternative certification was concern about real or impending teacher shortages and a keen interest in the overall quality of the teaching force (Adelman, 1986; Graham, 1989; Kirby, Darling-Hammond, & Hudson, 1989). In Connecticut, policymakers focused solely on the issue of quality and created an accelerated teacher education program consistent with and dependent upon state initiatives to raise professional standards. Since the earliest planning stages, the primary objective of the Alternate Route has remained the same: to bring exceptionally qualified individuals with diverse backgrounds into the profession (Bliss, 1989). A secondary agenda, of particular interest to Higher Education Commissioner Norma Foreman Glasgow, was to create an external catalyst for change in Connecticut's 14 standard teacher education programs.

The broad question facing the Alternate Route to Certification in Connecticut is to what extent have these policy objectives, aimed at issues of quality rather than quantity, been realized during the program's first 3 years? The information and analysis that follow provide an initial answer while acknowledging that unanticipated changes in the policy arena have occurred since the program's inception.

A formative and summative evaluation plan was put into effect concurrently with the program's beginning in 1987. The Department of Higher Education allocated an average of $22,000 per year for monitoring and evaluation activities conducted by the RMC Research Corporation of New Hampshire. Commissioner Glasgow's interest in this evaluation underscored a commitment to examine new or reconstituted approaches to teacher education, especially when they are intended to make qualitative differences. Data from the ongoing evaluation are interspersed throughout the sections that follow:

- ○ Overview
- ○ Entering Teaching Through the Alternate Route
- ○ Preparing Alternate Route Teachers
- ○ Market Characteristics in Connecticut
- ○ Alternate Route Teachers on the Job
- ○ Conclusions

The Overview provides information primarily on program requirements. The second section describes Alternate Route teachers, frequently comparing them with the general pool of newly hired Connecticut educators to provide perspective on the state's teacher market. The third section discusses the design of the Alternate Route followed by a brief summary of teacher supply and demand. The next section concerns Alternate Route Teachers on the Job and compares them with other novice teachers, all of whom are assessed on their ability to demonstrate proficiency in the Connecticut Teaching Competencies. This topic is taken up again in the concluding section.

Program Overview

Sponsored by the Institute for Effective Teaching, the program is an arm of the Department of Higher Education. Entry is competitive; costs to the participants in 1990 included $1,600 for tuition, $1,000 for room and board (optional), and $250 for books. Approximately 100 participants are admitted each year (30% of the total number of applicants) based on the following minimum criteria.

The candidate must:

- have a bachelor's degree from an accredited institution with a major in the intended teaching field (prospective secondary school teachers must have at least the minimum number of subject area semester hours required for certification; prospective elementary school teachers should have a major in a subject area, in the liberal arts, or in interdisciplinary studies);
- have an undergraduate grade point average of at least "B," or at least 24 semester hours of graduate credit with a grade point average of at least "B";
- submit an essay demonstrating a command of English and describing his or her desire to become a teacher;
- have a passing score on the Connecticut Competency Examination for Prospective Teachers (CONNCEPT) or an equivalent examination (the applicant may have this requirement waived if he/she has a combined SAT score of 1,000 or above);
- submit proof of registration for Connecticut's CONNTENT exam (This exam is designed to ensure that prospective teachers are knowledgeable about their subject area. At this time, CONNTENT passing scores are required for certification in art, biology, chemistry, earth science, French, German, mathematics, music, physics, and Spanish.); and
- submit evidence of experience in working with children or adolescents.

The Alternate Route certification areas are:

- ○ elementary education: Grades 4 through 8
- ○ secondary education: English, foreign language, mathematics, science, history, and social studies
- ○ art K-12, music K-12

The Alternate Route teacher must complete requirements for three consecutive teaching certificates. After the successful completion of the 8-week, full-time summer program and after the prospective teacher accepts a regular teaching position in a Connecticut public school, the school superintendent must request in writing a Temporary 90-Day Certificate. Once the 90-day teaching period is successfully completed, an Initial Educator Certificate is issued by the State Department of Education for 1½ years, upon the recommendation of the superintendent. During these first 2 years of teaching, Alternate Route teachers must also participate in the Beginning Educator Support and Training Program (BEST), which includes intensive mentoriing and 15 hours of inservice workshops each year.

At the end of the 2 years of teaching, all Alternate Route teachers will have been assessed on their proficiency in demonstrating the Connecticut Teaching Competencies. The assessment, involving six classroom observations by assessors (trained and certified by the State Department of Education) after the 90-day period, must be passed in order for a teacher to receive the Provisional Educator Certificate. The holder of a Provisional Educator Certificate must, within 3 to 8 years, complete 30 credit hours in a planned program beyond the bachelor's degree.[1] Thereupon, a Professional Educator Certificate will be issued. To keep the certificate, all educators in the state must complete nine continuing education units (90 contact hours) of professional development activities every 5 years.

Entering Teaching Through the Alternate Route

The following sample admission essay is typical of Alternate Route applicants:

> For as long as I can remember, I have wanted to teach. Much of my interest stems from being the oldest of four children and working as a camp counselor during summers in college. A few teachers in my life

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[1] The coursework must relate to the teacher's ability to provide instruction and be approved by the employing agent. Prior coursework may be considered if it was in a planned program and contributed to the teacher's instructional ability.

inspired me to learn, but none more so than my high school history teacher, Mr. Barrows. He made history come alive, having us read books like "The Lincoln Nobody Knows" and helping groups of us produce oral histories about our community. There was no question when I began college that I'd major in history and become a high school teacher. As it turned out, I majored in American studies and became a lawyer, succumbing to the pressure I felt from my family and professors.

Now after 10 years practicing civil rights law, the Alternate Route gives me the opportunity to pursue the dream I've always had. I believe the skills I've developed in community organizing and group dynamics, together with my first-hand experience of the judicial system, will bring a vital dimension to the classroom.

Three themes emerge from the approximately 1,000 essays of Alternate Route applicants: (a) I want to work with children; (b) I've always wanted to teach, and now teaching is possible; and (c) I want to share a love of the subject matter. Newly hired educators in Connecticut, based on 2,068 survey respondents (Connecticut State Department of Education [CSDE], 1988-1989), cite similar reasons for wanting to enter the profession: working with young people and/or a long-standing interest in teaching. A difference between the two groups is that Alternate Route teachers are attracted by a quicker access to paid teaching positions than is available in standard programs.

The essay asking applicants to describe their reasons for becoming teachers is only one component of the admission process (for a complete list of specific requirements, see Program Overview). In addition to excellent academic credentials, successful candidates must have significant experience working with children and submit three letters of recommendation attesting to their personal and professional characteristics. In some cases where there are insufficient data about an individual's ability to relate well with children, he or she is interviewed by the program director or faculty director.

The 100 or so individuals admitted annually to the program tend to fall into one of four categories: (a) Career Explorers—approximating 25% of the total group, these range in age from their mid-20s to early 30s and have spent some years in one or more professions, such as law, journalism, marketing, research, computer programming, insurance adjusting, acting, and social services; (b) Career Changers—constituting 20% of the group, these are generally in their mid-30s to late 40s, have had a long-standing and successful career, and now wish to make a change. This group includes an anthropologist, a graphic designer, symphony conductor, university vice-president, and news magazine editor; (c) Second-Career Individuals—composing about 15% of the class, these have retired from their original careers and include several research scientists and corporate executives, a judge, nuclear submarine commander, and foreign service diplomat; and (d) Educators—approximating 40% of the class and the largest category within the program, this group consists of committed teachers who are not yet certified to teach in Connecticut public schools—long-term substitutes, independent school teachers, and a handful of college professors and instructors.

The age range for the class of 1989 was 22-61. The average age was 35, which corresponds almost exactly with the average age of all newly hired educators in Connecticut in the same year (CSDE, 1989). Approximately one-third of the Alternate Route participants were under 30, one-third between 30-38, and the final third 39 and older (Cook, Trudeau, & Love, 1989).

Alternate Route participants in 1989 had an average undergraduate GPA of 3.24 based on transcript analysis by program staff. Although no comparable analysis has been done for the state's newly hired educators, one-third reported having a GPA of 3.5 and above. In 1989, 38% of ARC graduates held advanced degrees and another 20% had additional coursework beyond the bachelor's degree. Almost all of these degrees were in fields other than education, such as business, engineering, English, history, law, math, and science. These data reveal that the education level is not quite so high as the aggregate for Connecticut's newly hired educators in 1988-1989: 51% of these held graduate degrees and another 8% had additional coursework beyond the baccalaureate (CSDE, 1988-1989). No data on the subject areas of these graduate degrees is available.

Alternate Route graduates and the group of new hires in the state show similarities in motivation to teach, age, and the overall percentage of individuals who have done graduate work in degree or nondegree programs. Obvious differences show up in two areas: gender and work/life experience. Men make up 37% of the ARC graduates, in contrast with 17.6% of the newly hired pool. So far as work/life experience is concerned, 60% of the 101 Alternate Route graduates in 1989 entered teaching from another career, while only 7.4% of 1988-1989 newly hired educators were working outside of education, a decrease from the 11.9% reported 2 years earlier (CSDE, 1989).

Preparing Alternate Route Teachers

With the passage of the Enhancement Act in 1986, Higher Education Commissioner Glasgow was eager to forge new linkages between existing teacher education programs and the public schools. She invited prominent college and university faculty, public school teachers and administrators, and business and industry representatives to serve on an Advisory Council charged with designing an intensive summer program for the soon-to-be Alternate Route. This coursework component would be administered by the Department of Higher Education, followed by a 2-year program of extensive mentoring and classroom assessment managed by the State Department of Education.

After a year of intense deliberations, the Council presented the Commissioner with a rationale for a noncredit program, to be held for 8 weeks during the summer. Furthermore, the Council recommended that the topics covered should include those found in a standard program but with a different structure. Instead of offering a group of loosely coupled courses, content should be organized as a coherent, integrated curriculum—presumably a bellwether for the state's 14 college– and university–based programs.

While an integrated teacher education curriculum is still lacking in most teacher preparation programs (Olsen, 1990), it does have a foothold in Connecticut. Two liberal arts colleges, Connecticut College and Wesleyan University, adopted the approach in the early 1980s as a pedagogically sound and efficient way to meet state program approval standards. For example, at Wesleyan students preparing to be teachers take a double credit course, The Craft of Teaching, which weaves together various strands of prior coursework in the history, philosophy and psychology of education and teaching methodology. In this context, topics such as special needs students and classroom management are not courses unto themselves but are ongoing themes within a larger framework. The course is team taught by professors in each of the foundations and methods courses.

When the retiring Director of the Wesleyan Educational Studies Program was selected as the first Faculty Director for the Alternate Route, it was assumed many of the holistic characteristics distinguishing the Wesleyan program and that of like-minded liberal arts colleges would form the core of the new program. This has been borne out. The summer program, housed on the Wesleyan campus, consists of an integrated curriculum. Of equal importance with the curriculum are two other aspects of the summer program—the faculty and the intensity of the experience.

Curriculum

Approximately 60% of the coursework is a common core of generic teaching principles involving all students. Occupying 3½ hours each morning, the core includes lecture, small group discussion, and case teaching. These sessions, taught and/or attended by nine full-time faculty, are organized in thematic blocks, such as student as learner, special problems of learners, and teaching the learner. The student-as-learner block includes such areas as the changing American family, learning styles, teacher/student rapport, and student/student interactions.

The core curriculum is integrated with the subject area methods courses, which meet for 2½ hours each afternoon. For example, in one morning core session an expert in cooperative learning has students participate in various group exercises followed by a discussion of pertinent research about student/student interactions. Later that day, students explore the most appropriate uses of cooperative learning within their subject areas: "What are some key concepts within molecular biology, for example, that could be enhanced through cooperative learning?" In these daily forums with experienced teachers, students begin to develop an appreciation for linking pedagogy with content to improve students' learning. The subject area courses (Elementary 4-8, English, History/Social Studies, Mathematics, Science, Foreign Language, Music, and Art) have an average teacher/student ratio of 1:14 and involve at least 85 hours of contact time, which is more than one finds in many Master of Arts in Teaching programs.

Each year, evaluator and faculty recommendations have been used to adjust and modify the curriculum. For example, a clinical experience was not part of the first year program, but, now in year 3, each participant observes summer school classes and then teaches for 5 consecutive days. Faculty observe these sessions and provide feedback. Also, while the core curriculum was originally mostly lecture with only occasional demonstrations of innovative teaching, it now includes more cooperative learning and case teaching.

The Faculty

The original vision was to create an Alternate Route faculty composed of exemplary college and university professors and classroom teachers who, as a team, would design and teach an innovative curriculum. After the end of the summer program, it was hoped that teacher educators would return to their respective higher education institutions and modify their own programs with progressive teaching practices. The Alternate Route was intended to be a catalyst for change.

To date, efforts to recruit outstanding professors for faculty positions have been mixed. Professors have not been interested in spending a full 8 weeks away from other commitments, particularly research projects and teaching in their own summer programs. However, the six higher education faculty who hold part-time positions have an ongoing commitment to the program. They bring a vital perspective helping to ensure that practice is grounded in theory. In addition, the Executive Director (previously director of a university MAT program) and the Faculty Director (formerly chair of teacher education at a liberal arts college) both teach in the program.

Currently, all full-time faculty are distinguished classroom teachers, the majority with responsibilities as department chairs or district curriculum coordinators. Two-thirds of the group have doctorates and each is a life-long teacher with at least 15 years of experience. They are responsible for planning and teaching subject area courses and the core curriculum, and with support from administrative staff, they make admission decisions. For their summer responsibilities, they receive $8,800; during the academic year, they receive $32 per hour for curriculum development work and the admission process.

Becoming an Alternate Route faculty member is an intensely competitive process. From a pool of 175 applicants over a 3-year period, 14 have been selected by a committee of teachers, teacher educators, and administrators. Finalists are required to teach a lesson to the selection committee, answer several questions about teaching and teacher education, and produce an extemporaneous writing sample. More than half the original faculty have continued with the program into its 3rd year, creating a sense of continuity and ownership. There is also a strong interest in continually strengthening the program. For example, each faculty member writes a critique at the end of the summer program and participates in a day-long retreat, debriefing and beginning to plan for the following year.

Students have given faculty high ratings. At the conclusion of the 1st year, the external evaluation reported that 79% of the student body indicated that interactions with full-time faculty were very helpful (Love, Cooley, & Trudeau, 1989). At the conclusion of year 2, 94% either agreed or strongly agreed with the statement, "Overall, the ARC summer program was very helpful in preparing me to teach" (Cook et al., 1989). "ARC teachers are slightly more positive about the degree to which their teacher training program prepared them for teaching than are their traditionally trained colleagues" (Cook, Cray-Andrews, Trudeau, & Love, 1990). In addition, 99% praised part-time faculty and guest lecturers, which included Ted Sizer of Brown University; Jonas Soltis of Teachers College, Columbia; William Zinser of Yale; and Lorraine Monroe of Bank Street College.

The attitude of the faculty is reflected by Jim Landherr, regularly the mathematics department chairman at East Hartford High School, who stated, "Many of my Alternate Route students are mathematicians; they know more about some areas than I do, so I learn from them. But my job is to produce *teachers* of math, which is quite a different ball game."

An innovative aspect of staffing in the Connecticut Alternate Route program is that each faculty member has a Teaching Assistant drawn from graduates of previous classes. These Alternate Route alumni assist in both the core and the methods classes. They also serve in a supportive role for Alternate Route students, having themselves made a successful transition from other fields to teaching. For example, a Teaching Assistant helps the students with the job search process.

Community

According to the outside evaluation, "there was great appreciation for the informal atmosphere and sense of community created during the program" (Love et al., 1989). The first week of the summer program culminates in a 2-day workshop, "Theatre Techniques for Effective Teaching and Communication." The purpose of various team and role playing activities is to develop a strong sense of community across the disciplines and to help participants further develop their presentation skills. Students judge this activity as instrumental to group cohesion: "This really brought me into the program," "Before . . . I just felt like an observer," and "We developed confidence in our resourcefulness as a group."

The esprit de corps seems to be reinforced by the demanding schedule, considerable workload, and high standards. Seventy-nine percent of first year graduates considered the program "very intensive" (Love et al., 1989). James Taylor, formerly a naval officer at Annapolis and currently an English teacher, told a Connecticut Education Association gathering that "the Alternate Route makes boot camp look easy." Faculty define common evaluative criteria for core topics and differentiated criteria for each subject area. For example, all students must present a videotaped lesson, which is assessed by the subject area faculty member. Not all participants in this round-the-clock induction process have been successful in completing the requirements. On or before July 20, each student receives a mid-term evaluation from the methods instructor in collaboration with the faculty director. The summative evaluations occur on the days just prior to graduation, when faculty members meet individually with students. Of the 115 students enrolled in the 1990 program, four were counseled by the faculty director and left the program. These students had problems working with adolescents. Another three students had problems with organizational skills and had to agree to fulfill additional requirements. One student had to take a longer period of student teaching and two others more coursework before receiving a Record of Completion.

Market Characteristics in Connecticut

In the mid-1980s, dozens of Connecticut school districts had difficulty finding qualified applicants for mathematics and science teaching positions. In less than 5 years, a dramatic change has occurred in the teaching market. Of the approximately 2,500 new teachers hired in the state in September 1988, six were physics teachers, with an average of 10.5 applications per vacancy (CSDE, 1989). This was twice the number of applicants as in the previous year. In 1989, the average number of physics applicants was similar, but only one vacancy existed in the entire state (CSDE, 1989-1990). Teaching positions in mathematics show a similar pattern. In September, 1988, an average of 15 applied for each of 60 positions; by 1989, there was an average of 38 applicants for each of 61 positions.

The state's current supply and demand situation is like an undertow, which occurs along the coast when sets of waves encounter a strong current pulling seaward, creating two forces moving in exactly opposite directions. In Connecticut, an overwhelming interest in teaching, prompted by salary increases and enhanced professional status for teachers, is similar to large sets of waves moving toward shore. On the other hand, low teacher turnover, coupled with lower than expected state revenues and a continued decline in secondary enrollments, has resulted in relatively few new jobs. This scenario of dwindling job opportunities resembles the current pulling seaward. These opposing forces of supply and demand have created an undertow-like turbulence.

The keen competition for public school teaching positions began to occur in 1986 with the implementation of the Education Enhancement Act. Median starting salaries for teachers with a BA degree increased by 16% in the first year (Flavell, Frega, Rendone, Prowda, & Thompson, 1988-1989). By 1988-1989, the median starting salary was $22,142, approximately double the median starting salary in 1981-1982. In a few years, Connecticut moved from seventh place in teacher salaries to second place behind Alaska and in 1990 had an average teacher salary of $40,346 ("What Teachers Earn," 1990). According to the Coordinator of Research Services, Connecticut State Department of Education, "if conditions remain the same, by 1992-1993, average teacher salary is expected to exceed $50,000." In some affluent communities, such as Westport, this level has already occurred (Rierden, 1990).

While salary increases have made teaching an affordable career, other factors have contributed to the overall attractiveness of the profession. The reform package includes a comprehensive professional continuum giving veteran teachers more opportunities for increased recognition and responsibility (CSDE, 1988). For example, the Cooperating Teacher Program, involving approximately 1,000 teachers statewide, illustrates the type of expanded responsibility available to experienced teachers and is integral to the heightened sense of professionalism permeating the teaching force (McElaney, 1989).

How have Alternate Route teachers fared in an extraordinarily tight market? In 1989, 54 of the 101 graduates, or just over half, found public school teaching positions. The hiring rate was far better for those who were age 39 and under, approximately two-thirds of the total. According to the outside evaluation (Cook et al., 1989), "the reasons for this relationship are unclear. It may be that districts are more willing to hire Alternate Route teachers who are more comparable in age to other new hires, rather than to expend time and effort to develop an effective teacher among those considered to have less total time to devote to a teaching career. It also may be that older Alternate Route participants are somehow different in other characteristics that were not addressed in the survey."

The public school hiring rate for Alternate Route teachers, just over 50%, compares with a 25% hiring rate for the overall pool of newly licensed teachers (CSDE, 1989-1990). Although Alternate Route graduates do relatively well in the job market, 55% indicated in 1989 that the market was worse than anticipated (Cook et al., 1989). A typical comment was, "I was a finalist for a position but lost to an experienced teacher." Indeed, experienced teachers constituted 71% of the 1988-1989 newly hired educators, based on a survey with 2,068 respondents (CSDE, 1988-1989). Close to half of the new hires were returning teachers with prior Connecticut experience and 13% had taught in other states. Although the hiring rate of inexperienced teachers increased by seven percentage points between 1986-1988, they still constitute less than 30% of all new hires.

When the Alternate Route program was created, no one foresaw the full effect of salary increases: burgeoning competition for a dwindling number of jobs. Unquestionably, teaching in Connecticut has become an attractive and valued profession, but the price tag has been high to the individual. Many who have left stable careers to pursue the dream of

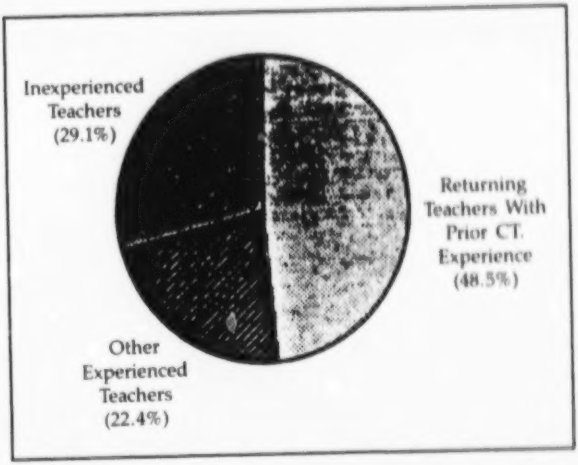

Figure 1. Prior experience of Connecticut's newly hired educators for the 1988-1989 School Year (Source: Connecticut State Department of Education).

teaching must defer the dream for a second time. Consequently, one result of the program has been to contribute to the state's teacher reserve pool, defined as the set of all individuals under 65 years of age who are certified to teach in the state's public schools during a given year but who are not doing so. This reserve pool is an important component of future supply and demand in Connecticut with massive retirements expected throughout this decade.

Alternate Route Teachers on the Job

The continuing goal of the program—to bring exceptionally qualified individuals with diverse backgrounds into teaching—carries with it an implicit expectation: Because of academic and life experiences, these individuals, with adequate initial and ongoing training, will become effective teachers. They enjoy "a privileged status" since they can leapfrog over student teaching, a mandatory requirement for all other prospective Connecticut teachers.

In lieu of student teaching, Alternate Route teachers receive extensive on-the-job supervision from mentors whose primary responsibility is to support the development of the beginning teacher's skills as specified in the Connecticut Teaching Competencies. Like all beginning teachers in the state, Alternate Route graduates participate in the Beginning Educator Support and Training Program (BEST) which includes two distinct but complementary components: mentoring and assessment. The difference is that Alternate Route teachers meet with a mentor once a week over the course of 2 years; other beginning teachers have a mentor for one year.

Shulman (1989) illustrates the critical role of the mentor for Alternate Route teachers. She says mentors need to help the novice to both integrate classroom management with effective instruction, and develop their pedagogical content knowledge; that is, present students with a variety of ways of understanding a concept. Through the Connecticut mentor program, the integration of classroom management is already taking place and, as the program matures, the teacher may place increasing emphasis on pedagogical content knowledge. According to the outside evaluation (Love et al., 1989), "A strong mentor program appears to be the backbone of the first-year experience of beginning Alternate Route teachers. Alternate Route teachers received important and useful help from their mentors in virtually all areas in which the teachers felt they needed support and assistance."

In addition to the state-sponsored mentoring, during their first 6 months on the job, teachers from the Alternate Route receive additional supervision, meeting every 2 weeks with a principal or an experienced teacher. In fact, the superintendent of the Canton Public Schools says of an Alternate Route teacher in his system, "She is without a doubt the most observed individual in the state of Connecticut."

How have the supervisors rated Alternate Route teachers? Responding to open-ended questions in a February 1989 survey (Love et al., 1989), "88% of supervisors felt that Alternate Route teachers were stronger than other beginning teachers[2] in personal qualities; they described the Alternate Route teachers as mature, hard-working, committed to teaching, willing to improve, willing to be active in all school activities, conscientious, having high self-esteem, . . . caring, creative, flexible and enthusiastic." The most frequently cited weakness (37% of the supervisors) was the lack of prior teaching experience. The next most frequently cited weakness (33% of supervisors) was classroom management, although a quarter of the supervisors identified this as a strength. "Supervisors' overall reaction to these new teachers was extremely positive. All but three respondents (94%) indicated they would gladly rehire their particular [Alternate Route teacher]." (Love et al., 1989).

In a more extensive survey (Cook et al., 1990), supervisors, principals, and mentors of 76 1st and 2nd-year Alternate Route teachers were asked about these teachers compared with other novices.[3] The mentors, supervisors, and principals:

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[2] Each respondent was allowed to define "other beginning teachers" for him/herself.

> . . . feel very positive about the Alternate Route teachers in their schools. Specifically, they say that the teachers are as effective as other beginning teachers, that they are responsive to individual students, and that the students being taught . . . are learning at an acceptable rate. In their view, Alternate Route teachers are creative and innovative in the classroom and in the eyes of their mentors and supervisors they are more mature and work somewhat harder than other new teachers. (Cook et al., 1990)

A caveat regarding the finding of maturity is the lack of information about the ages and prior teaching experiences of the individuals included in the study. For example, we know that 35 is the average age of new hires in the state and the approximate average age of Alternate Route teachers, but we do not now if this was true for the sample. If the ages are comparable, then the finding of "more maturity" among Alternate Route teachers may be important but we would also need to consider other factors such as extent of prior professional experience. Also, since the parameters for the comparison group, "the least experienced traditionally trained teacher," were not clearly defined in the RMC study, the Alternate Route teachers may have been compared with teachers with substantially more teaching experience. A useful follow-up study would be to compare Alternate Route teachers with other new hires, controlling for age and prior teaching experience.

To date the most reliable data concerning the teaching abilities of Alternate Route teachers comes from the formal classroom observations which constitute the assessment portion of the Beginning Educator Support and Training-program (BEST). In the late spring of 1990, the following information was reported to the Connecticut Competency Standard Setting Committee by Professional Examination Service of New York:

> All ARC teachers were classified in either the "elementary peer family" or the "academic subject peer family." In the elementary peer family, all 5 ARC teachers (100%) met the standard while 29 of the 32 regular teachers (91%) did so. In the academic subject areas, 18 of the 25 ARC teachers (72%) met the standard while 9 of the 13 regular

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[3] The comparison group of teachers included in the study were the least experienced traditionally trained teachers in the same schools where Alternate Route teachers were employed.

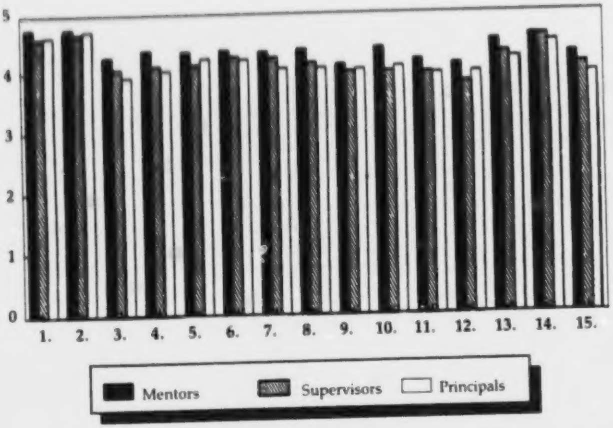
teachers (69%) did so. "Although the numbers of individuals passing are too small to make broad inferences, the percentages passing seem very equivalent and thus, support the contention that comparable proportions of ARC teachers are meeting the standards expected of beginning teachers in Connecticut." (p. 19, Cook et al., 1990)

These data from the formal assessment are supported by surveys of school personnel responsible for providing ARC teachers with support and preparing them for the assessment process. When mentors, supervisors, and principals were asked how well the program prepared the Alternate Route teachers on each of the Connecticut Teaching Competencies (Cook et al., 1990), all ratings were good to excellent. Three areas received consistently excellent ratings: (a) demonstrating facility in the skills of reading, writing, and mathematics; (b) demonstrating knowledge of the subject to be taught; and (c) meeting professional responsibilities. Although all ratings were consistently "good" or better, those competency areas receiving the lowest ratings were: (a) facilitating the independence of student as learner, and (b) meeting the needs of exceptional children (see Figure 2).

Conclusions

The Alternate Route program is meeting its primary goal of bringing highly qualified individuals into teaching who contribute excellent subject matter knowledge and a high degree of professionalism. In 1989, very favorable and extensive comments were offered by the majority of supervisors, such as: "There is no question in my mind that the training . . . is excellent. If only state universities could offer the same training for teachers"; "I feel the added experience and extensive subject matter knowledge allow these teachers to provide especially current and relevant programs for students"; and "I am truly impressed with the program and its holistic approach to instruction" (Love et al., 1989). Also, extensive data from school personnel who work directly with ARC teachers suggest a fine record of performance (Cook et al., 1990).

A second goal of the Alternate Route was to act as external catalyst for change in standard teacher education programs. The initial success of the integrated curriculum encouraged faculty members in some Connecticut universities to examine their curriculum and the organizational structure of course offerings. For example, the structure of the Alternate Route curriculum may have had some influence on the redesign of the University of Connecticut's teacher education program. At that school, core courses offered in the fall of 1990 were organized thematically in a well-integrated sequence (Devaney, 1990).



How well did the ARC program prepare the beginning teacher on each of the Connecticut Teaching Competencies (Scale 1 = Poor 5 = Excellent).

	Men.	*Sup*	*Prin.*
1. Demonstrating facility in the skills of reading, writing and mathematics.	4.76	4.60	4.62
2. Demonstrating knowledge of the subject to be taught.	4.76	4.67	4.71
3. Demonstrating knowledge of human growth and development as it relates to the teaching-learning process.	4.26	4.05	3.91
4. Demonstrating knowledge of the American public school system.	4.38	4.11	4.02
5. Planning instruction to achieve selected objectives.	4.35	4.12	4.23
6. Implementing instructional plans and using appropriate instructional techniques.	4.37	4.26	4.21
7. Communicating with students.	4.34	4.24	4.04
8. Helping students develop positive self-concepts.	4.38	4.14	4.04
9. Facilitating the independence of the student as learner.	4.10	3.98	4.02
10. Organizing time, space, materials, and equipment for instruction.	4.41	4.00	4.09
11. Assessing student needs and progress.	4.22	4.00	3.98
12. Meeting the needs and progress.	4.15	3.83	4.00
13. Establishing a positive environment.	4.56	4.36	4.25
14. Meeting professional responsibilities.	4.65	4.64	4.53
15. Encouraging and maintaining the cooperative involvement and support of parents and the community.	4.34	4.16	4.00

Note: This table appears on page 22 of "Alternate Route to Certification: Perspective on Beginning Years in the Classroom" (Cook et al., 1990).

Figure 2. Connecticut teaching competencies: Supervisory/Support Staff.

The Alternate Route also may have spurred interest in new programs. The large number of highly qualified post-baccalaureate candidates entering the Alternate Route may have prompted some education school deans to consider developing graduate level teaching programs.[4] During 1989-1990, the Department of Higher Education approved two preparation programs at the Masters degree level—one at Quinnipiac College and one at Southern Connecticut State University. As the state's teacher education community becomes increasingly aware of the Alternate Route program's structure and curriculum, perhaps more experimentation will occur.

With a 3-year record of accomplishment, alternate certification in Connecticut has enjoyed enormous popularity with program participants as well as with school personnel who work with Alternate Route teachers. The continued high employment rate in a fiercely competitive market is a key indicator of the program's contribution to the profession.

The danger with the type of positive data reported throughout this article, however, is that it can be used out of context. That Connecticut Alternate Route teachers are performing at least as well as teachers from standard programs should not be used as a general endorsement of the Alternate Route concept in states which take a different approach. After all, our teachers have had 2 months of full-time preparation and 2 years of intensive mentoring—a significantly longer period of training than in any other alternate route program. The importance of the findings beyond Connecticut may be in encouraging experimentation. For example, 3 years of program monitoring indicate that a rigorous and extended apprenticeship is appropriate for some mid-career professionals with considerable prior experience with children. However, the semester-long student teaching experience is essential for many individuals, particularly those who lack experience with children and who have not held prior positions as professionals. Another approach, only in the early exploration stages in Connecticut, is the professional practice school "which would aim to create roles and relationships that stress collaboration among experienced and novice teachers and an inquiry, rather than craft approach to teaching" (Neufeld, 1990). The Alternate Route may be a stepping stone to professional practice schools. It is the only program in the state in which teachers have more than one mentor during the first 6 months of teaching—the state-trained mentor and a district-appointed supervisor. This approach helps to address the novice's need for a variety of collegial opportunities.

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[4] Throughout the 1960s and early 1970s, both Wesleyan University and Yale University had well respected MAT programs, but each was eventually phased out, leaving few in-state options for post-BA prospective teachers.

As increasing numbers of mid-career individuals enter the teaching profession, we must create experiences that are appropriate to their developmental needs. An important result of the Alternate Route is that prospective teachers in Connecticut now have some options from which to select the preferred form of preparation and quality has not been sacrificed.

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Alternative Certification: State Policies in the SREB States

Lynn M. Cornett

In 1980, the Southern Regional Education Board's (SREB) Task Force on Higher Education and the Schools, composed of educational and governmental leaders from throughout the SREB region (15 states[1]), began the job of taking a close look at how teachers are prepared, considered the shortage of science and mathematics teachers, looked at the quality of the work force, and made 25 recommendations for change in education. Half of those recommendations were aimed at improving the quality of teachers for the region's classrooms. Questions were asked by that committee, such as:

> How do we recognize the potential of liberal arts graduates? What changes might be made in the obstacles that now stand in the way of liberal arts graduates to teach? In viewing the critical shortage of math and science teachers, could professional education requirements be loosened to permit greater access to the teaching profession for majors in those fields? (SREB, 1980)

One of the recommendations of the Task Force was that "states should modify certification requirements to permit graduates in mathematics and science who lack professional education preparation to teach at the secondary levels, with safe guards to insure the quality of instruction" (SREB, 1981). It is clear that two concerns fueled the drive to initiate

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[1] Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

changes: (a) concern for quality teachers in the classroom; and (b) teacher shortages, especially in the mathematics and the sciences.

In fact, Virginia was the first state to promote alternative certification. A 1985 editorial in the *Richmond Times Dispatch* reflects on it this way:

> In Virginia, shortages have been most pronounced in fields such as science, mathematics. . . . It is reassuring to note that the Old Dominion has become something of an innovator in tapping new sources of teachers. . . . New Jersey recently received much national press for establishing an alternate route to the classroom enabling liberal arts graduates to be licensed to teach . . . before them came Virginia in 1982. Dr. John S. Davis, State Superintendent for Public Instruction, bravely bucked the education establishment in order to loosen the pedagogues' monopoly on teacher licensing. ("Staffing," 1985)

(It should be noted that in 1982 Virginia instituted the first statewide alternative certification program by mandating provisional licensure for all arts and sciences graduates as well as graduates of teacher education programs. In 1988, Virginia mandated that all teachers graduating in 1994 and after will complete an arts and sciences major.)

All 15 SREB states now claim to have alternative certification programs (see Table 1). While about half of the programs are limited to "critical need" areas, states are expanding programs to other areas. Critical needs are defined as subject areas such as mathematics and science and/or for geographical locations. (The recent focus on the term licensing for the "right" to practice in the classroom versus certification as having met higher standards is not lost here, but the term alternative certification has traditionally been used for licensure programs.)

Attention reflected in the 1985 editorial about the concern for the monopoly on teacher education continues today. A February 1990 editorial states:

> Under the current set-up, Albert Einstein wouldn't be allowed to teach in the Alabama schools. State Senators Bailey and Bedsole feel there ought to be a way to get some of that expertise in the classroom without making people . . . jump through hoops for an education degree. ("Public Schools: No Einstein," 1990)

On the other hand, the education dean at Auburn University in Alabama said, "Alternative education bills are unnecessary because Alabama's colleges already provide an alternative route to changing careers." (Alabama has a master's degree alternative certification program.) "The legislation proposed in Alabama would seriously undermine . . . and will injure the education of our children" ("Auburn

University Education Dean," 1990). (The legislation was not passed during the 1990 Alabama legislation session, but was passed in 1991.) Just before taking office in January 1991, the Governor-elect of Georgia called for "removing barriers to entering the teaching profession" and for streamlining certification for graduates who do not take education courses but who have subject matter expertise (Miller, 1990).

Programs in the SREB states have been initiated through state policy (state legislative action in eight SREB states, state board of education action in seven states).[2] States are continuing to act on the issue of alternative certification. During 1990 the Maryland Board of Education created a new alternative certification program as did the Tennessee Board of Education. Florida law, passed in 1990, extended the alternative certification program in that state to include elementary and special education teachers. West Virginia legislation in 1990 called for a new program to be developed. As new programs are created and as states extend programs, it may be helpful to examine current programs in the region to get some direction for establishing program guidelines and policy.

How Do We Define Alternative Certification Programs?

While all 15 SREB states report that they have alternative certification programs, it is quite clear that some simply give teachers without the proper credentials (requirements such as education hours completed) an interim status and allow them to be employed while they work to earn the college credits that are equivalent to standard requirements for teacher education programs. On the other hand, several states have developed *alternative certification programs*—ones that permit arts and sciences graduates to go through intensified but shorter programs (not requiring the typical accumulation of education hours), or meet requirements by demonstrating competencies, or by gaining the necessary expertise through field-based experiences while holding a teaching position. This discussion will briefly describe both types of programs, but focus on those that are truly "alternatives." For the purpose of this article, the *alternative certification programs* are state programs that alter licensure requirements through: (a) completing a different set of standards (i.e., limiting the number of education courses required); and (b) meeting licensure requirements by demonstrating competency (i.e.,

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[2] Information on state policy issues in the 15 SREB states is compiled on an on-going basis through surveys, telephone conversations, compilation of legislation and state reports by SREB staff. This report includes data and information from such sources and will not be individually cited. (Sources of specific information can be obtained from author.)

Table 1
Alternative Certification for Teachers: SREB States

	BACHELOR'S DEGREE IN SUBJECT AREA	CERTIFICATION TEST	SUPERVISED TEACHING/ INTERNSHIP	ADDITIONAL TRAINING	TEACHERS ELIGIBLE	ESTIMATED NUMBER OF CERTIFICATES AWARDED 1988-1989
Alabama	Yes	English Language Proficiency	Yes	Master's Degree Program	Critical Need	262
Arkansas	Yes	Pass	Yes	Yes	All	11 Enrolled
Florida	Yes	Pass	Yes	Yes	Secondary	30 (100 Enrolled 89-90)
Georgia	Yes	Pass	Yes	Yes	Critical Need	100 Estimated
Kentucky +	Yes	Pass	Yes	Post-Baccalaureate Pilot Program	Critical Need	12
Louisiana	Yes	Pass	Yes	Master's Degree Program	Secondary	Not Available
Maryland*	Yes	Pass	Yes	Post-Baccalaureate Program	All	100
Mississippi	Yes	Pass	Yes	Yes	All	600 (1986-1989)

North Carolina*	Yes	Pass	Yes	Complete Regular Teacher Education Requirements	Critical Need	1-2% Total Certificates
Oklahoma +	Yes	Pass	Yes	Complete Regular Teacher Education Requirements	Critical Need	2
South Carolina	Yes	Pass	Yes	Yes	Critical Need	112
Tennessee*	Yes	Pass	Yes	Complete Regular Teacher Education Requirements	Except K-3	762 (Interim Certificates)
Texas	Yes	Pass	Yes	Yes	All	860
Virginia	Yes	Pass	Yes	Yes	Secondary	458
West Virginia +	Yes	Pass	Yes	Yes	Critical Need	14

+ 1990 legislation in Kentucky, Oklahoma, and West Virginia calls for the development of new programs.

* State Boards of Education in Maryland (1990), North Carolina (1991), and Tennessee (1990) mandated new programs that alter the additional training so that candidates meet competencies or reduced hours of training.

SOURCE: Compiled with information from the state departments of education, 1990.

passing tests for certification, on the job evaluations, and/or completing a supervised internship).

Several state programs have resulted in attracting substantial numbers of persons (Texas now certifies 16% of its new teachers through the programs; Virginia has consistently had about 10% of its new certificates issued through the alternate route). Other states certify small numbers—12 or 14. Why? Differences in the programs because of legislation? State board of education rules? University-based program? School-based program? Demand by school districts? Who is being recruited? Who are the target populations? New arts and science graduates? Shortage areas only, such as science and math? Career changers? Both?

Program evaluations in states such as Texas, Florida, and South Carolina point to the effectiveness of their programs. In Texas over 50% of the interns at the end of 1989 were minorities—much higher than the traditional pool. Why? Is there a lesson for other programs?

When we focus on the original intentions of these programs—to provide more teachers in shortage fields such as mathematic and science, to allow arts and science graduates to enter teaching, to remove barriers for career changers, to "break the monopoly" held by colleges of education—we need to ask if these intentions are being fulfilled. Two major questions about alternative certification programs need to be answered: (a) are the programs attracting persons who might not otherwise enter teaching?, and (b) are these teachers effective in the classroom?

While this short article cannot fully answer these questions, examining the following will help to point toward answers:

1. What are the similarities and differences in the state policies?
2. Who is entering teaching through these programs?
3. How effective are the programs in preparing teachers?
4. What are the strengths and weaknesses of the programs?

State Policies for Alternative Certification—Similarities and Differences

To examine state policies, it is important to distinguish those policies that provide alternatives to licensure requirements—that is, the usual number of college or university courses in education, or graduation from an approved teacher education program is not required along with the usual student teaching requirements. Instead, the competency approach is generally used—teachers demonstrate they have requisite skills and knowledge and are granted regular licensure. A short description of those programs that do not alter licensure requirements is provided, but the remaining discussion will focus on those that we defined earlier—alternative certification programs that alter licensure requirements.

Policies That Do Not Alter Licensure Requirements

Alabama, Kentucky, Louisiana, and **Maryland** have State Board of Education policies that establish regulations for university-based postbaccalaureate programs for persons who have completed undergraduate programs in the arts and sciences. The Alabama and Louisiana efforts are for critical need areas and, in Maryland, programs are aimed at arts and science graduates and career changers. (The 1991 Alabama legislature created a new program that will alter licensure requirements.) The Alabama, Maryland, and Louisiana programs lead to master's degrees. In these programs participants are not required to be employed and, in fact, may attend full-time. In Kentucky, an experimental program at the University of Louisville requires participants to be employed half-time in a school district, and compresses the time to receive the needed coursework. Kentucky legislation in 1990 called for a new alternative certification program (in which licensure requirements would change) to be developed. The Maryland State Board of Education in September of 1990 created a "resident teacher" program that is included in the next category.

Oklahoma State Board of Education policy for an alternative certification program is aimed at critical needs areas. It requires the same course credit hours for initial licensure, allows an extended time to meet these while employed, and allows teaching to substitute for student teaching credits. (The 1990 legislature in Oklahoma created a new alternative certification program, but it essentially only provided for an extended time to complete regular education course requirements.) Legislation passed in 1991 and revised in 1992 creates a new Alternative Placement Program that modifies licensure requirements to include credit for experience and coursework. **Tennessee** gives an interim probationary certificate while credits are accumulated at the rate of 6 hours every 5 years. Tennessee Board of Education in November 1990 passed a policy to develop alternative preparation programs for licensure (Tennessee State Board of Education, November, 1990). This will be discussed in the next section. **North Carolina's** lateral entry program was mandated by 1985 legislation to encourage lateral entry into the profession by skilled individuals from the private sector. State Board of Education guidelines provide for a university-based program in which a person with a subject area major is employed and over a period of 5 years completes (at least 6 hours a year) the requirements for licensure as recommended by an approved teacher education program in the state. The State Board of Education mandated in January 1991 a new program that modifies requirements in addition to the lateral entry program.

Policies That Alter Licensure Requirements

Twelve SREB states—Arkansas, Florida, Georgia, Kentucky, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia, and West Virginia—now have alternative certification programs that alter teacher licensure requirements.

Six states—**Arkansas, Maryland, North Carolina, Tennessee, Virginia,** and **West Virginia**—have State Board of Education initiatives that provide alternative ways of becoming regularly certified teachers. All use the notion of meeting specified competency levels, but not requiring the usual education hours or courses. Virginia's 1982 action, originally designed for arts and sciences graduates to increase the pool of secondary teachers, has now been broadened to include K-12, and university programs aimed at those moving into teaching from other careers have been developed. In 1982 the State Board of Education mandated that all teachers in Virginia receive provisional certification for 2 years, whether they completed an arts and sciences degree or a teacher education program. Those who had not completed the teacher education program can take 9 hours of college courses in specified areas with 2 years of teaching substituting for student teaching requirements. Another route is for local districts to design a program to help candidates meet competencies in specified areas, such as organization of instruction and evaluation of student performance. (Beginning in 1994, most teachers certified in Virginia must have an arts and sciences degree.) Newer university programs for those changing careers have been designed for adults and provide more intensive programs geared around the experience and the needs of these teachers.

The 1986 West Virginia State Board policy is aimed at "career changers in shortage areas who may or may not be employed." Originally, West Virginia College of Graduate Studies, West Virginia Institute of Technology, and West Virginia State University designed, in cooperation with districts, a program that includes accelerated instruction geared to adult learners. An assessment of individual needs is made to determine curriculum; certification is based on the competency model with demonstration that the teacher has met the needed competencies. The program was designed to use the candidates' previous training and knowledge. West Virginia law created another program in 1990 (this will be discussed in detail later in the article).

In 1988, the Arkansas State Board of Education decided on regulations for an experimental alternative certification pilot program. The intent of the policy is to tap a pool of experienced people (career changers) to stem the growing teacher shortage. The program is aimed at arts and sciences graduates who are employed by districts that show a need for such teachers. The programs are district-based and training is provided for 3 weeks before school begins and continues throughout the year in areas such as teaching models, psychology of learning, and classroom management. Mentor teachers, who work with the interns during a year of supervision, must meet state criteria, such as advanced degrees, evidence of teaching excellence, and at least 5 years teaching experience. Limited to 50 teachers per year for 3 years, the program began in the 1989-1990 school year.

Mississippi State Board policy allows persons who score at the 51st percentile on the National Teacher Examinations to seek employment in a district that shows a staffing need. Designed for teacher shortages, teachers take 12 hours (6 hours during the 1st year) in courses such as educational psychology. The programs are determined by universities and supervision during the 1st year is not required. Teachers must meet the competencies required of all beginning teachers in the provisional 3-year period. A study of Mississippi teacher education policy in 1988 by outside consultants suggested that the state provide clearer criteria for the programs rather than institutions determining hours to be completed (Saunders, 1989). Legislation passed in 1990 also said that noncertified persons with content expertise can be hired to teach up to three periods a day.

The Maryland State Board of Education created a Resident Teacher Certificate in September of 1990 for liberal arts graduates to be able to obtain and remain in teaching jobs without completing the regular teacher education programs. In the past, school systems in Maryland could hire a teacher with a liberal arts background for a provisional certificate if no certified teachers were available. The regular teacher education program then had to be completed before certification. Under the new program, resident certificates will be granted if the person (a) holds a bachelors degree appropriate for either an elementary or secondary school position, (b) has achieved a B average in his or her college major, (c) has passed the National Teacher Examinations (cut off scores determined by the state), and (d) has completed 90 hours of study of education. The program calls for 90 hours to be completed before being hired. The teachers will be supervised by a veteran teacher or faculty member.

In November of 1990, the Tennessee State Board of Education passed regulations for "alternative preparation for licensure to attract extremely capable individuals who bring maturity in a variety of work experiences to the teaching profession." A limited number of higher education institutions in the state have been approved to offer the programs.

Candidates are jointly screened for admission by higher education faculty and K-12 practitioners. Programs can be developed in the areas of secondary education, elementary education in grades 1 through 8 with a specialization in middle grades, and K-12 endorsements in fine arts, health, physical education, and special education. A Teacher Education Institute includes preparation on knowledge and skills needed as well as continuing professional development during the 1st year of teaching. The candidate is supported by one or more mentor teachers. Both the teacher and the mentor receive on-going professional development. School districts are required to provide support enabling the mentors to meet with teachers, provide evaluation, demonstrate effective instruction, and observe the teacher. It is equivalent to at least 2 days per month. The cost of the mentoring program, including release time, stipends for mentors, and substitute teacher reimbursement, is paid by the state or, if funds are not available, a school system. Use of probationary permits and licenses is limited under the new rules. The new programs were slated to begin the beginning of May of 1991 (Tennessee State Board of Education, November 1990), but in actuality began the summer of 1992.

The states of **Florida, Georgia, South Carolina,** and **Texas** passed legislation in 1984 or 1985 calling for alternative certification programs (Cornett, 1986). Kentucky and West Virginia passed 1990 legislation to create alternative certification programs. Programs are in response to teacher shortages, and lawmakers desire to extend opportunities to arts and sciences graduates. The intent of Florida's law was "to attract arts and sciences graduates" into teaching in secondary schools (Cornett, 1984, p. 3). Both Georgia and South Carolina's programs were for critical needs areas, and the Texas law said the alternative certification was based on the needs of districts, and was for those who were "not graduates of teacher education programs." All were designed to provide an alternative way for persons to become licensed while holding teaching positions.

South Carolina's law called for a program that would allow a teacher with a major in a shortage area, who passed the certification test, to progress toward meeting requirements set by the South Carolina State Board of Education. The clear intent of the law was to provide an alternative route to be licensed. The State Board of Education regulations were designed around demonstrating competency for the job without meeting regular licensure requirements. Winthrop College was designated to pilot and design the program around state guidelines. The state plans called for a school and university based program that would include intensive training before the beginning of school (3 hours credit would be given), eight one-day seminars during the year of supervision, a class the following summer (3 credit hours), and completion of three additional credit courses for a total of 15 credits to be acquired over 2 years through a combination of on-the-job experience, training, and course work.

The Texas law called for licensure of college graduates who had *not* completed a teacher education program. The law also specified that teachers should pass a teacher competency test, serve an internship, take teaching method training, and hours from a university as described by the Board. The law exempted persons from taking required examinations to test pedagogical methods, the history of education, or child psychology. (All alternative certification programs in the SREB states require candidates to pass the teacher tests and complete beginning teacher programs that might be in place.) In Texas, State Board of Education rules established a district-based program in which districts can hire teachers based on demonstrated staffing needs. Cooperative programs between districts and higher education are to be delivered using the school as the primary delivery system. Mentor teachers for supervision during an internship are to be Career Level II teachers. Release time is to be available for interns and mentors. In addition, districts have to commit funding for the program. Programs have been established in K-12, 6-12, bilingual, and English as a second language. Sponsors of the cooperative programs range from districts to universities to regional service centers in the state. Three models have emerged in Texas—higher education, educational service center, and school district models. The higher education model includes coursework and supervised in-school training while the intern is a 1st year teacher. (Additional course-taking may lead to a master's degree, but is not required.) The educational service center programs rely on field-based experiences with supervision by a mentor teacher. Some coursework is taken. Three urban districts have developed their own programs with staff development. The State Board of Education required the programs to be evaluated by examining teacher performance and comparison of the alternative certification candidates to traditional graduates (Texas Education Agency, 1990).

Georgia's 1985 *Quality Basic Education Act* called for an alternative program for certification. The law gave authority to the State Board of Education to grant renewable certificates to persons who had not completed a teacher preparation program. The law called for a subject matter degree, one-year internship, assessments required for all teachers, and completion of "*an appropriate college course* related to human grown and development otherwise required of applicants for such certification." (All teachers were also required to have a course of 5 quarter hours in identification and education of children who have special needs.) The State Board of Education guidelines establishing the program call for 20 quarter hours of college credit in specified areas, such as human growth and development, or the equivalent in staff development units to be completed. The State Department of Education outlined competencies and drafted a 100-page document. This syllabi is for districts that plan to offer the courses through staff development. The report provides guidelines on the internship and courses (hours required and curriculum objectives and methods) (Georgia Department of Education, 1987).

A 1984 study of colleges of education by Florida's Postsecondary Education Planning Commission led to a major recommendation that an alternative certification program be developed to enable arts and sciences graduates to teach in secondary schools. The 1984 Florida law on alternative certification was intended to attract arts and sciences graduates into teaching for secondary schools. A 2.75 overall GPA, a degree in content area, and completion of testing and beginning teacher program are required. An evaluation of the program comparing teacher effectiveness of arts and sciences graduates and teacher education graduates was to be undertaken. The State Department of Education proposed a school-based program to meet the competencies that had been previously outlined for teachers in the state. A 30-hour content major was required. Because of an evaluation of the program in 1988, the program was changed so that regional centers operated by universities now provide the instruction. (The evaluation had shown that many districts did not have the resources to develop training programs and that the program was not being implemented statewide because of this.) The 1988 legislature provided funding for five university centers that are now in place. In 1990, Florida law extended the alternative certification program to elementary and special education teachers; funding was also made available to districts that want to develop programs.

Legislation in the Kentucky Education Reform Act of 1990 called on the newly created Education and Professional Standards Board to develop regulations for alternative certification programs. The programs are to be developed by local or a group of local districts. The Professional Standards Board shall approve and evaluate the programs. According to the legislation, these programs are seen as "an alternative to college teacher preparation as a means of acquiring teacher certification." The program will be open to all teachers except those for exceptional children. Persons must complete a bachelors' degree with a 2.5 grade point average, must complete tests of general knowledge, communication skills, and in specific teaching fields. Thirty hours in a major or 5 years experience is required. The programs require joint university and school partnerships and include a 1-year internship. Eight weeks of instruction are provided prior to the beginning of the teaching year with intern teachers teaching one-half time load for 18 weeks and continuing under supervision for another 18 weeks—250 hours total time of formal instruction are provided in the program during the pre-year and year internship training. The support team makes recommendations as to whether or not the candidate will be issued 1-year of eligibility to complete an internship.

A comprehensive education bill passed in West Virginia in 1990 requires the State Board of Education to adopt rules for the approval and operation of alternative teacher preparation programs. A person with a bachelors degree who has been offered employment in a school and has passed state board approved basic skills and subject matter tests (or has met experience requirements) can receive a 1-year alternative program teaching certificate. Approved alternative programs include a 20-to-30-day full-time seminar practicum covering areas such as classroom management, basic teaching skills, curriculum, and student assessment. An intensive on-the-job internship is required with supervision for at least 10 weeks and continued supervision and evaluation for at least 20 weeks more.

A Summary of State Policies

1. Programs in Alabama, Louisiana, Maryland, North Carolina, Oklahoma, and Tennessee that were created through state board policy in the mid-1980s provided for additional time to gain regular licensure requirements or establish master's degree programs that fulfill regular licensure requirements. The North Carolina State Board of Education rule translated the lateral entry legislation into a university-based program in which candidates meet all *regular licensure requirements.* Oklahoma legislation in 1990 provided for alternative certification for persons with degrees in mathematics, science, and foreign language. It did not, however, change requirements to be licensed, but provided for a certificate to be issued after 2 years of emergency certification. These programs are not included in the following discussions because they did not, in effect, alter licensure requirements and therefore do not fit the definition of alternative certification programs used for discussion in this article.

2. Thirteen SREB states—Arkansas, Florida, Georgia, Kentucky, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia—now have alternative certification programs that substantially alter licensure requirements.

A. Programs in South Carolina, Texas, Florida, Georgia, Kentucky, Oklahoma, and West Virginia were created by legislation. These programs permit arts and sciences graduates to gain regular licensure through *modified requirements*.

B. State board policy in Arkansas, Maryland, North Carolina, Mississippi, Tennessee, Virginia, and West Virginia created alternative certification programs.

C. Early programs such as Virginia's and Florida's were aimed at enlarging the pool of prospective teachers for secondary schools. Both states now include all teachers. Georgia's and South Carolina's programs were targeted to critical shortage needs and have remained that way. West Virginia's early program was aimed at career changes; the 1990 mandate aimed at all arts and sciences graduates. The Texas program, while it was originally limited to several shortage areas, has now been expanded. The newest programs in Kentucky and Maryland do not place restrictions; Tennessee does not include elementary teachers.

D. State Board of Education/Department of Education rules and guidelines generally determine whether laws were translated into course-credit interpretations or guidelines for competencies to be achieved. The Georgia Department of Education guidelines are detailed and, in fact, set out rules and regulations that districts must meet to provide staff development that substitutes for college courses. South Carolina requires the equivalent of 15 semester graduate credits earned during an on-the-job internship, training, and course-taking. In Georgia, 20 quarter-hours are specified. Neither Florida nor Texas takes the course approach, but rather specify competencies. The West Virginia and Kentucky guidelines are yet to be developed for 1990 laws.

3. Policies in states that modify licensure requirements *have similarities*—Arkansas, Florida, Georgia, Kentucky, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

A. All SREB states with alternative certification programs require tests and on-the-job performance assessment of all beginning teachers. Mississippi requires a much higher score on the NTE (51st percentile) than for regular teacher education graduates.

B. Standards for entrance to alternative certification programs are equal to, or in some cases, higher than, those for entering regular teacher education programs. Florida has a 2.75 Grade Point Average (GPA); Arkansas, has a 2.75 (GPA) in the last 60 hours, and 3.0 for content major. Georgia and Texas require a 2.5 GPA overall average. Tennessee calls for standards to be the same as required for admission to post-baccalaureate programs or an equivalent test requirement.

Maryland requires a "B" average in the college major; Kentucky candidates must have a bachelor's degree with a 2.5 GPA.

C. Additional supervision (other than usual programs) is often required. Arkansas and Tennessee call for trained mentors. In Texas, Tennessee, and West Virginia, the districts must provide release time for the mentors and the interns. South Carolina provides once-a-month seminars and ongoing supervision for interns; West Virginia and Kentucky have called for joint supervision of interns by higher education and schools.

D. Programs have become increasingly joint efforts of higher education and the schools. Florida's program, started as district-based, now uses universities to deliver training in cooperation with schools. South Carolina—a university program—has worked to develop school-based internships through cooperative efforts with schools. Texas has 16 centers for its program: six are university sponsored, three are district-based, and seven are out of regional service centers. All are joint efforts of higher education and schools. Tennessee requires cooperation of higher education institutions and the State Department of Education in developing programs and recommending teachers for licensure. In Maryland, higher education faculty or teachers can serve as mentors during an internship period. The Kentucky program requires a joint university and school partnership.

Are Programs Attracting Persons Who Might Otherwise Not Enter Teaching?

In 1986-1987, 10 SREB states with alternative certification programs awarded about 1,100 certificates (SREB, 1987). By 1988-1989, that number had doubled to over 2,200 teachers, with close to 4000 by 1991. The bulk of these are in programs in nine SREB states—Alabama, Florida, Georgia, Maryland, Mississippi, North Carolina, South Carolina, Texas, and Virginia.

Virginia reports that 458 of its newly certified 4,474 teachers in 1988-1989 were alternative certification candidates increasing to over 600 by 2 years later. North Carolina reports five percent of its new certificates are alternative certification candidates. Mississippi has awarded close to 800 certificates in the years 1986 to 1991. Maryland reported 35 in 1987, rising to 100 in 1989. From 1986 to 1990, South Carolina issued 22% of its initial certificates in science to graduates of their Critical Needs Certification Program. Similarly, 17% of mathematics and foreign language certificates were from the program (Corbin, 1991).

The most dramatic increases have been seen in the Texas program. In

1985-1986, one district (Houston Independent School District) participated in the program with 276 interns. The number of districts has steadily grown and in 1989-1990, 166 districts (15% of the state's total) participated in the program. The total number of interns jumped to 1,215 in 1989. That means about 350 more interns were in the programs than just 1 year before.

Who Is Being Attracted to Teaching for Alternative Certification Programs?

Texas has documented minority participation in their program from 1987-1988 to the present time. According to a report entitled *Alternative Certification in Texas* (Texas Education Agency, 1990), the "alternative route to certification has become a primary means of attracting minority professionals into the classroom." In 1988, 43.7% (229) of all interns were minority. That number increased to 536 of the new interns in 1989-1990. In addition, of the 1,064 new interns in the program in 1989, 30% were male. This compares in Texas to a teaching force composed of 22% males; the state reports 22% of its total teachers to be minorities. The Texas program has attracted a larger percentage of mature persons than the traditional programs. Of the new interns, 10% were below age 24; 70% were between the ages of 25 and 40; and 20% were over the age of 40. The Florida program (USF, 1989) reported 85 students enrolled in 1989, 18 of whom were minority persons.

Since the Texas program was initiated during the oil crisis, the question is always asked—are these person who couldn't find jobs elsewhere? A study of the 1988-1989 candidates, says "no" to that question. Over three-fourths of the interns made a conscious decision to change careers, and only four percent were unemployed when they entered the program. Almost all of the interns said they would like to remain in education, with 52% desiring to stay in teaching. Almost 60% of the interns have college grade point averages of 3.0 or better; 2.5 is the state mandated minimum, but two programs require higher grade point averages (Wale & Irons, 1990).

In *A 1988 report on the South Carolina Critical Needs Certification Program*, Million (1988) reported that 15% of all participants are from minority groups and 38% are males. The South Carolina program shows that the mean age of participants is approximately 30, and that they have worked in fields such as chemical engineering, laboratory technology, and have served in the military (South Carolina's designated areas of need are mathematics and science with foreign language and library science added later.) By 1988, the program in South Carolina had produced 63 mathematics teachers, 86 science teachers, and 3 in library science working in the schools. A later study showed 22% of initial science certificates given from 1986-1990 were from the program; 17% of mathematics and foreign language certificates. The program attracted older persons (average age of 38 compared to the state average of 31) and a greater proportion of minorities; 22% compared to 14% for the traditional undergraduate training program (Corbin, 1991).

The West Virginia alternative certification program (field-based training program) was piloted in 1986-1987 to attract second career adults into teaching, especially in shortage areas. Since 1986, 32 interns participated in the program with 26 completing the requirements. The bulk of the participants had bachelor's degrees in biology and chemistry, with nine holding a master's or Ph.D degree. Occupations previous to entering the program ranged from biological lab technicians, a museum science director, professional chemist, and a lawyer. The participants with a background in science fields had enough undergraduate courses in other disciplines, such as mathematics, to be certified in those areas. That was not the case with those having undergraduate mathematics degrees. According to a 3-year evaluation (Securro, Nicholson, & Dockery, 1990), "Participants were diverse and, unlike the teaching ranks in general, there was a fairly even spread of male and female participants (17 of the 32 were male)" (p. 9).

The Rand study that examined 1987 alternative certification programs for science and mathematics teachers found the programs to be "most successful in attracting the mid-career changers, and new BA's" (Carey, Mittman, & Darling-Hammond, 1988, p. 25). Florida, Georgia, Louisiana, Maryland, Mississippi, South Carolina, and Texas programs were included in the 10-state study. In that study, the 1985 South Carolina programs had three-fourths of its participants who were new college graduates; the remaining were mid-career changes. Texas had 20% new graduates and 65% mid-career, 20% were from the military or retirees, and 5% were homemakers. Two programs in Maryland reported that half of their students in 1986 were mid-career persons. The Rand study suggested that for science and mathematics teachers, retirees and homemakers were not a large part of the pool. Local economic conditions changed the number of persons applying for programs. The Texas evaluation would indicate that unemployment did not drive persons into their program, although the desire for economic stability was a factor in choosing a teaching career.

All SREB states require that persons in alternative certification programs complete the testing requirements for regular certification. While teacher certification test scores do not necessarily equate with quality, they do indicate a "quality" measure of whether or not a candidate

Table 2
Passing Rates on ExCET Examination In Texas

Certification	*Percent Test Passed*		
	Total	*Hispanic*	*Black*
Initial	81.1%	59.7%	44.8%
Alternative	86.1%	81.6%	69.8%

possesses a minimal level of knowledge for initial licensure. Texas has compiled and reported information in a comparison on how the alternative certification teachers compared to regular graduates. Summary statistics of passing rates for the Examination for the Certification of Educators in Texas (ExCET) show an 81% pass rate for tests taken for regular initial certification, and an 86% pass rate for alternative certification candidates. For minority teachers, the results are quite different for initial certification interns (see Table 2).

It should be noted that alternative certification candidates may take the test during the internship; however, initial candidates are college graduates. The results for Texas do show that candidates entering teaching through this alternative program show different pass rates.

Summary

Information from the reported program evaluation in Texas, South Carolina, West Virginia, a national study (reviewed here), and the review of research by Hawley in this issue, indicates that *yes, alternative certification programs are attracting persons who would not otherwise enter teaching—they are older, more are minorities, and more are men.*

In this section, we have discussed the fact that:

1. In 1989, twice as many persons were prepared through alternative certification programs in SREB states as were prepared just 2 years before.

2. The participants are older than the traditional students in teacher education.

3. A larger proportion of persons trained through alternative certification programs are minorities as compared to the traditional teacher education programs. Seventeen percent of the bachelor's degrees in education in the SREB states were awarded to minorities in 1985.

4. A larger proportion of the candidates being prepared are male as compared to the traditional programs. (In 1985, 24% of the bachelor's

level teacher education degrees were rewarded to males in the SREB states.)

5. In Texas, alternative certification interns have higher pass rates on certification tests than do traditional education graduates. Minorities have markedly higher pass rates than minorities who are initially certified through regular channels.

How Effective Are Alternative Certification Programs in Preparing Classroom Teachers?

To know longterm effectiveness of programs, states need answers to two questions:

1. Are the teachers effective in the classroom?
2. how long will these teachers remain in teaching?

The 1988 SREB report *Alternative Teacher Certification Programs: Are They Working?* (Cornett, 1988), compiled results of early evaluations of alternative programs in the SREB states. Following are excerpts from that paper:

> According to evaluation by the Texas Education Agency, *TEXAS'* nine programs currently have over 500 persons in training; 75 districts are now participating. Sponsors for the programs across the state include districts, university/school partnerships, and a regional service center. State guidelines require that all program evaluations include results on teacher certification tests and performance in the classroom for persons completing programs. Results on teacher certification tests (subject matter) and performance in the classroom, as measured by the state's teacher appraisal system, show that the alternative certification candidates are performing at levels similar to first-year teachers from traditional education programs. (In July 1987 testing, persons in alternative certification programs passed 84 percent of the certification tests; others seeking initial certification passed 77 percent of the test.)
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> A 1986 study by the Houston Independent School District showed no differences in teacher performance for first-year certified teachers and those in the alternative certification program. Students of teachers in the alternative certification program scored as well on achievement tests as those taught by teachers who had completed traditional programs.
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> *NORTH CAROLINA's* "Lateral Entry Program" was legislated in 1985 to attract liberal arts graduates and provide alternative

ways to meet competencies for certification. At East Carolina University a program was designed to prepare science and mathematics teachers for rural areas of the state. A study of the 12-month program by researchers at the university found that teachers prepared in the program demonstrated knowledge and teaching skills (as measured by the National Teacher Examinations (NTE) and North Carolina Teacher Performance Assessment) at the same level as other first-year teachers who were prepared in traditional programs. The program includes six weeks of training before supervised internship during one school year. Actual instructional time is compressed to 80 percent of a regular program over a much shorter time period.

FLORIDA's alternative certification program, created by 1984 legislation and implemented during the 1985-86 school year, attracted only 51 persons the first two years, according to a study commissioned by the Florida Education Standards Commission. An additional 34 persons enrolled in the program for 1987-88. This compares to thousands of temporary certificates that are awarded each year in Florida.

A 1988 study for the Standards Commission of programs in 11 of the state's 67 districts found that data to evaluate program effectiveness were not available, but that program coordinators and persons completing the programs were positive about the effort. Supervisors and principals across the state rated the performance of persons in the programs on par with other new teachers. While training programs are to include on-the-job supervision, none of the district programs had reduced teaching loads for participants or provided full-time supervision. Often there was no preparation before entering the classroom for persons coming into the programs during the school term. The Florida study showed that there were two primary barriers to implementing programs on a wider basis: (1) arts and sciences graduates may be employed on temporary certificates (they must complete 6 hours college credit per year), and (2) local districts have to develop a 90-hour training program for those seeking alternative certification. Also, information about alternative certification has not been widely disseminated to districts that do not currently have programs. The study showed that there is more interest in the program than available positions in districts with approved plans. The alternative certification program requires a 2.75 grade-point average and 30 hours in subject matter; districts report that most persons

> teaching under temporary certificates do not meet these selective standards. Participating districts do not want changes in the standards, however.
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> At Memphis State University, program evaluations conducted by university researchers of a non-degree alternative certification program and a Master of Arts in Teaching program (a graduate-level teacher preparation program) for secondary teachers provided information on persons attracted to these alternative ways to complete requirements for certification. Participants are persons seeking mid-career changes, persons who have attained a level of financial security which allows them to teach, or new liberal arts graduates who have not found their niche. Participants have higher NTE scores than students completing undergraduate secondary teacher education programs—typically scoring above the 80th percentile. Candidates have higher admission scores, show more imagination, are more intuitive, and have more abstract thinking skills than master's degree students in other education programs, according to the evaluation. Most applicants said they could not commit 15 months to full-time study and internship without financial help, but are willing to accept loans that can be paid back by teaching. A higher percentage of the persons who have completed the programs have entered teaching than is the case for regular teacher education programs. (Retention rates are not yet known.) Despite recruitment strategies, the programs have not been able to attract many well-qualified minority candidates. (Cornett, 1988, pp. 3-5)

The report made these summary statements:

1. Based on preliminary information, alternative certification programs are adequately preparing persons to become teachers.
2. The number of persons in these programs is small (it is unlikely that in states that permit emergency certification that large numbers will enter these programs.)
3. Small districts find it difficult to develop programs because of limited number of candidates or resources.
4. Too little program evaluation is underway. States, districts, colleges, and universities should begin new efforts to confirm or deny the early indications of effectiveness of the programs.

Four years later in 1992, alternative certification programs have been in place longer, and possible trends can be seen. More extensive evaluation of programs should now be available.

A 1990 SREB survey to state departments of education asking for evaluation studies on alternative certification programs showed, however, that very few comprehensive evaluations were underway in SREB states, and *none* really provide complete information on teaching effectiveness. The Texas Education Agency evaluates and publishes test score data and demographics information on their programs yearly. Florida evaluated its program in 1988, changed the program, and now has undertaken a 3-year look at its new center-based alternative certification program. The 1st year evaluation (1988-1989) focused on implementation of the center approach. The 2nd year (1989-1990) was to focus on quality, with the 3rd year to evaluate program effectiveness (in terms of impact on participants). While both the Florida and Texas legislation call for evaluations to include comparisons of teaching effectiveness of teachers from alternative certification programs to traditional graduates, very little hard data has been compiled and reported by states on teaching effectiveness. Texas Education Agency reports that interns must "meet expectations" on the Texas Teachers Appraisal System to be recommended for certification; and that interns have consistently scored well on the assessment.

Difficulties in reporting "teaching effectiveness" data for comparative purposes is shown in one study. A 1990 report on the Dallas Alternative Certification Program found that for all teachers in the district, 93% received "clearly outstanding" or "exceeds expectation" on evaluation ratings (Gomez & Grobe, 1990). The study made comparisons to alternative certified teachers with 1 to 3 years experience. Eighty percent of those teachers received similar ratings. The authors note that the comparison groups and the fact that over 90% of the teachers fell into the top two categories do not provide much evidence of how groups really compare. A comparison of student achievement in the same study had the same comparison group problems, but showed no differences in student achievement for students of either group of teachers.

South Carolina commissioned a third party evaluation of its alternative certification program at Winthrop College. The outside evaluation of the South Carolina Critical Needs Certification Program "finds the program making significant contributions toward filling math and science classrooms in South Carolina with competent and motivated teachers. Without alternative teacher training, the dire shortages of math and science teachers would be exacerbated."

"School practitioners consider the alternative certified teachers to be competent (especially in their subject matter) and motivated to work with students. However, we do not know the effects of . . . teachers and their teaching on student performance" (Sundstrom & Berry, 1989 page 27).

The 1990 and less recent studies suffer from methodological problems that have long plagued attempts to make comparisons of teachers prepared through different types of programs. Hawley's (in press) compilation of past studies indicates that (given all the research limitations) classroom performance ratings of teachers prepared in traditional and alternative programs are very similar.

Summary

Most SREB states are not conducting or compiling comprehensive evaluation data about programs—short term or *especially* longer-term—providing data to answer questions about whether alternative certification programs are preparing effective teachers and whether they will remain in the classroom. The evidence from these studies and others, however, suggests performance is similar to teachers prepared in traditional programs.

What Do the Evaluations of Programs Say About Strengths and Weaknesses of Programs?

Previous studies sponsored by Rand (Carey et al., 1988) and by the U.S. Department of Education, including several projects in the SREB states, pointed to apparent strengths or weaknesses of alternative certification programs. Individual studies have been conducted independently. However, more comprehensive research must be conducted to alter, expand, or discontinue programs based on adequate information. What are the strengths and weaknesses of school-based or university-based programs? How extensive does supervision need to be for arts and sciences graduates? How do alternative certification programs that alter requirements for licensure compare to those that condense the time to take the courses? Does the same program work for new graduates and mid-career candidates? Why are more minority candidates attracted to some programs? To add to the expanding but inadequate policy research, the following has been found about recent studies about alternative certification programs in several SREB states.

The West Virginia program is an accelerated field-based model that uses previous training and knowledge of the participants in designing their curriculum. A 1990 study (Securro et al., 1990) of the *perceptions of program graduates* said that:

- ○ Participants saw professional training as necessary; they thought that professional education training was important, especially moving through the program as a part of a cohort.

- The condensed time of the program did not present a problem and faculty were considered effective.
- Based on suggestions of earlier graduates, more specific training in classroom management and strategies was added.
- The once weekly meetings of the cohort were important.
- Initially mentor teachers had the idea that the training was not on par with traditional programs. However, as candidates progressed, they were well received in the schools. Interns are planning to remain in teaching for 3 to 5 years, but are uncertain beyond that.
- Refresher work in content areas is sometimes needed despite advanced degrees in mathematics or science (i.e., a refresher course in plane geometry).

An evaluation of the Texas program (Wale & Irons, 1990) through surveys to interns, mentors, and principals reported on *perceptions* about the programs in that state. Findings include:

- Interns and program directors (77%) agreed that a basic skills test should be taken and passed.
- Interns view the mentor teachers as necessary even when the interns held full-time teaching positions (the program is based on an induction model—one-to-one relationship).
- The interns said that it was *most important* for mentors to have strong knowledge in content (86%), be a role model (85%), possess good communication skills (83%), and have classroom and management skills (83%).
- Interns said it was *less important* for mentors to have training in performance evaluation (39%), and higher education coursework in the last 2 years (33%).
- University supervisors were the only group that considered expertise and training in curriculum instruction to be the most important category.
- Sixty-one percent of the interns viewed mentor support as excellent, but only 37% rated the conferences held with mentors as excellent.
- Eighty-three percent of the administrators had positive attitudes about the programs.

The Texas study relates that in 1986, the Commissioner of Education and the Commissioner of Higher Education challenged the colleges of education to collaborate in alternative certification programs. Colleges of education had been critical of the school-based model. However, at one institution, after initiating an alternative certification program, the ranks of those in education increased. The University of Texas-Pan American at Brownsville had one-third of its student population enrolled in the college of education. After initiating the alternative program, over two-thirds of the enrollment is now in education with the majority in the alternative certification program. Another reported effect on colleges and universities has been changes in college education courses due to outspoken (generally more mature) interns expressing what kind of courses they really need.

The alternative certification programs have fostered cooperative arrangements among faculty, teachers, regional service centers, and administrators in the Texas alternative certification efforts. Program development must go through a consensus process before being submitted to the State Board of Education for approval. It is thought that this kind of bottom-up planning can be a major influence on traditional programs that prepare teachers.

The 1st year evaluation of Florida's five university-based centers for alternative certification programs recommended the following:

- Regular school-based observations should be made (75% of the interns held regular teaching positions).
- Centers should try to strengthen ties with school support teams that work with and evaluate beginning teachers.
- Peer teachers need training in clinical supervision.
- Centers should be encouraged to develop and use individualized self-pacing modules for instruction. It is recommended that this be a joint effort coordinated by the state department of education (USF, 1989).

The South Carolina third party evaluation (Sundstrom & Berry, 1989) of the Critical Needs Certification Program, based on survey and interviews in districts in that state, discussed aspects of the program. The report said that superintendents and principals (who deal with the pragmatics of school staffing) were supportive of the program and perceived alternative certified teachers to be quite qualified with strength in content. Eighty-five percent of the administrators said they would hire more alternative certification teachers. Eighty-seven percent of the superintendents either agreed or strongly agreed that these teachers "possess sufficient knowledge about their subjects to teach secondary students." That is compared to 67% of the superintendents giving the same response for regular applicants. The teachers in the program viewed themselves as being more prepared and were more confident than a sample of regular teacher education graduates. Seventy-seven percent of the alternative certified teachers believed their training was as good as training of other teachers. In fact, more (93%) felt they were more prepared in organizing instruction than did regular teachers (69%). Based on this study, the third party evaluation recommended that:

- Alternative certification should continue.

○ Lessons learned should be used to improve traditional teacher education.
○ School administrators should be given the opportunity to better understand the program and have a more direct part in planning it.
○ Summer seminars should be expanded.
○ Mentors should be given additional training and information.

Summary

While the number of studies cited here is limited, and allowing for the fact that many of these studies are based on *perceptions* about programs, the research seems to suggest the following:

1. Support during initial teaching is critical through either a cohort group or a mentor in the school or both.

2. Higher education faculty and school teachers and principals are working more jointly as a result of alternative certification programs.

3. Interns (often older with experience outside of schools) may be influencing traditional teacher education programs and how they are delivered (more individualized instruction, condensed time for programs, and changes in course delivery and content).

The Future of Alternative Certification Programs in the SREB States

Alternative certification programs in the SREB states were originally developed to increase the supply of teachers, especially in critical shortage areas such as science and mathematics and may have been seen as temporary programs to respond to a problem. Another clear intent in several states was to increase the pool of teachers by allowing arts and sciences graduates and those in mid-career to join the teaching ranks without completing traditional teacher education programs, thereby opening the doors to teaching for persons that do not complete regular teacher education programs. SREB state policies continue to support and, in fact, have broadened programs in several states.

In 1988, Florida provided close to $400,000 to establish university centers to deliver and coordinate that program; 1990 legislation was introduced to expand the Florida law to include not only secondary teachers, but to allow elementary teachers in special areas to qualify. In Kentucky and West Virginia, reform legislation passed and funded by the 1990 legislatures outlined alternative certification programs for most teaching fields. Maryland and Tennessee have developed new programs that provide for alternative ways to meet licensure requirements. It is a fact that in the SREB states, political and public support remains strong for broadening a teaching pool through alternative certification programs.

Three examples illustrate the political climate:

The 1990 Mississippi legislature passed a law to allow districts to use "the expertise of local business or other professional personnel" by allowing them to teach a maximum of three periods a day without certification.

An editorial from the *Arkansas Gazette:* "We needn't discourage an effort to find even 50 men and women a year with knowledge and motives who are willing to switch careers. Education has suffered and every other profession and business profited, from the opposite switch ("Switching, for a Change," July 2, 1988).

A recent half-page news story about the University of Louisville, Kentucky program quotes a chemical engineer in the program as saying, "The thing that is good about this program is that it cuts through the red tape . . . it really gets into the meat of the matter right away" ("University of Louisville Plays Cupid," 1989).

In Conclusion

1. More than twice as many teachers are now being prepared through alternative certification programs in SREB states as were being prepared just 2 years ago.
2. Alternative certification programs in the SREB states are attracting persons who would not otherwise enter teaching—they are older and, in several programs, more are minority and male.
3. While conclusive evidence on the effectiveness of programs in SREB states does not exist, evaluations do show that effective teachers are being prepared in these programs.
4. Higher education and schools are jointly exploring new ways of preparing teachers because these programs have been mandated by legislatures and state boards of education.

The SREB states are committed to developing innovative and alternative ways for persons to enter teaching. Because of that and the continuing need to know what works best and what doesn't, states need to begin now to develop more comprehensive tracking of teachers and their performance in the classroom to get conclusive answers on effectiveness of different teacher preparation models.

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Los Angeles Unified School District Intern Program: Recruiting and Preparing Teachers for an Urban Context

Trish Stoddart

Alternative routes into teaching have been widely criticized by the teacher education community as "quick fix" solutions to teacher shortages, an approach which recruits substandard teachers, provides inadequate professional education and results in a decline in the quality of instruction in the public schools (AACTE, 1986; Gideonse, 1984; Roth, 1986). Paradoxically, such programs often represent an attempt on behalf of states and school districts to upgrade teaching standards already downgraded by teaching shortages that result in the use of emergency credentialed and misassigned teachers (Feistritzer, 1985). For at least 20 years traditional approaches to teacher recruitment have not provided sufficient numbers of teachers to meet the needs of urban areas or high demand subject areas, such as mathematics, science, bilingual education, and special education (Cagampang & Guthrie, 1988; Darling-Hammond, Hudson, & Kirby, 1989; Haberman, 1986, 1988, 1990; Kerchner, 1984; NCES, 1983). A whole generation of children, particularly those from inner city and minority families, is already being educated by marginally qualified teachers. Supporters of alternative routes to teacher certification argue that these programs are an effective way to recruit academically competent individuals to teach in hard-to-staff schools (Fox, 1984; Gray, 1987; Wimpelberg & King,

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1983) and to allow school districts to replace the emergency credential system with a rigorous program of field-based professional training (Cooperman & Klagholtz, 1985).

Clearly, strategies need to be developed to attract talented individuals to teach in urban schools. The quality of instruction in urban schools, however, will not improve if the individuals who enter teaching through alternative routes are not academically competent and do not receive high quality professional education. While most states have established minimum academic standards for admission to alternative route programs—typically an individual must have completed a bachelors degree with at least a C+ college grade average and pass a basic skills and subject specialty area test—the quantity and quality of professional education provided by such programs varies widely (Feistritzer, 1990). Some programs grant full certification based on transcript and resume analysis while others require individuals to complete the equivalent of a traditional approved college teacher preparation program.

There is currently little information available on the outcomes of such alternative approaches to teacher recruitment and training. This article uses a case study of one program, the Los Angeles Unified School District (LAUSD) Intern Program, to investigate the use of an alternative route to teacher certification to meet the teacher recruitment and training needs of a large urban multicultural school district. It addresses four main questions: (a) How effective is an alternative route to teacher certification in recruiting academically qualified individuals to teach in urban schools? (b) Does the population of teacher candidates recruited into the alternative route program differ from the traditional college-based teacher education population? (c) What kind of professional education is provided by an alternative route to teacher certification? and (d) How do teachers in the alternative route program compare to university-educated teachers?

Teacher Shortages Tend to be Localized

Projections on teacher supply and demand over the last decade indicate that the U.S. could face a teacher shortage unless recruitment into teacher education programs increases or alternative sources of teachers are found (ASCUS, 1986; Darling-Hammond et al., 1989; Levin, 1985; Shymansky & Alridge, 1982). Increased student enrollment, a high rate of teacher attrition, an aging teaching force, and new opportunities for minorities and women in more lucrative professions are all factors that contribute to teacher shortages (CES, 1985; Darling-Hammond, 1984). Recent estimates indicate that over the next 5 years more than a million new teachers will need to be hired (CES, 1985). The situation is complicated by the fact that teacher shortages tend to be located in specific subject matter areas, grade levels, and geographical contexts. Many of these new teachers will be needed in urban schools and in high demand subject areas such as mathematics and science. Even when more teachers are recruited there is no guarantee they will meet specific recruitment needs.

The traditional source of new teachers has been undergraduate college students who decide as sophomores to become teachers. The 18-to-21-year old cohort that forms the traditional college age population is declining and a smaller proportion of this cohort is entering teacher education. Between 1975 and 1984 the percentage of college students majoring in education declined from 21% to 9% and the number of newly qualified teachers dropped by more than 50%—from 261,000 to 105,000 (Carey, Mittman, & Darling-Hammond, 1989; CES, 1987; NCES, 1990a). While in recent years there has been an upswing in recruitment into teacher education programs (AACTE, 1989) the increase is not sufficient to meet demand. It has been estimated that, by 1992, the supply of new teachers may constitute less than two-thirds of the number needed (Carey et al. 1989).

This situation has led to the development of general policies which aim to improve recruitment by making the teaching profession more attractive, for example, raising beginning teacher salaries, loan forgiveness programs, and career ladders. General policies, however, ignore the fact that many teacher shortages are localized in specific geographical contexts, subject matter areas, and grade levels. Raising the beginning teacher salary across the board may encourage a new graduate to train to teach history in a suburban secondary school but is unlikely to encourage a new math or science graduate to consider a career as a teacher in an inner city school.

The inner cities have, and in the foreseeable future will continue to have, chronic shortages in all fields and at all levels. The typical teacher education graduate prefers to teach in a suburban rather than urban school (AACTE, 1987; Haberman, 1988, 1990; Stoddart, 1988; WDPI, 1986). In every state the urban areas rely on uncertified or misassigned teachers, whereas neighboring suburbs have up to 500 applicants for each job (Haberman, 1988).

This, a serious problem in itself, is exacerbated by a decline in the number of minorities entering teaching. The importance of teachers as role models for children has long been recognized, especially when the teacher is a member of the students' own cultural group (Middleton, Mason, Stilwell, & Parker, 1988; Smith, 1984). Increased opportunities for minorities in more lucrative and higher prestige occupations have resulted in a dwindling supply of minority teachers (Darling-Hammond, 1984; Feistritzer, 1985; Post & Woessner, 1987; Smith & Welch, 1986). Projections based on current trends show that minorities will constitute only 5% of the teaching force by the year 2000, while the minority student population will expand from 29% to 33% (Smith, 1984). The shortage of teachers of color is of particular concern in states such as California, which are predicted to have a "majority-minority" population by the year 2000 and where school districts such as Los Angeles Unified already have child populations that are more than 70% minority (PACE, 1989).

High demand for, and high salaries paid to, the small number of skilled math and science professionals by business and industry indicate there will be a continuing and growing shortage of math and science teachers (Howe & Gervolich, 1982; Levin, 1985; Shymansky & Alridge, 1982). The National Council of Teachers of Mathematics reported a 77% decline between 1972-1982 in the number of secondary-level mathematics teachers enrolled in 600 teacher training programs nation-wide (NCTM, 1982). In the same period, the number of degrees granted in science education declined by one-third (CES, 1987). Teacher shortages in mathematics and science have been acute for at least two decades (ASCUS, 1986; Shymansky & Aldridge, 1982) and almost two thirds of the states report long-term teachers shortages in these disciplines (Darling-Hammond et al., 1989).

Emergency Certificate and Misassigned Teachers

In most states the response to teacher shortages has been to issue emergency certificates or use out-of-field teachers to fill gaps in staffing (Darling-Hammond & Hudson, 1987). Forty-six of 50 states permit the issuing of substandard, limited, or emergency certificates (Feistritzer, 1985). An emergency certificate allows someone to teach who either does not have academic qualifications in the subject to be taught or does not have a teaching credential. In at least 20 of the 46 states emergency certificates are issued to candidates who do not have a bachelor's degree (Darling-Hammond et al., 1989; Feistritzer, 1984). In 1986-1987, 22% of newly hired teachers were not endorsed for the subject or grade level they were assigned to teach (NCES, 1990a).

Hiring new teachers on emergency credentials is only part of the problem. In most states, teachers who have taught in the school system for one year can be reassigned to any subject without violating teacher certification laws. Thus it would be legal to reassign an English teacher to teach chemistry or a math teacher to teach biology. The Council of

Basic Education (CBE) and the American Federation of Teachers (AFT) surveyed the 50 states in 1983 and estimated that as many as 200,000 U.S. teachers—approximately 10% of the total—were teaching out of field (CBE, 1986). The percentages are higher for newly qualified teachers. In April 1987, only 74% of newly qualified teachers (NQTs) who were teaching were certified in their teaching field (NCES, 1990a).

As would be expected, these percentages are significantly higher in urban areas and high demand subjects. According to Darling-Hammond (cited in Landers, 1990), three-quarters of the 4,600 new teachers hired in New York City Public Schools in 1989 were not fully certified to teach. In 1987, 50% of the NQTs of mathematics, 47% of NQTs in biological science, and 31% of NQTs in physical science were not certified to teach in their assigned fields (NCES, 1990a).

Teacher Supply and Demand in California

Teacher recruitment in California is a microcosm of the national situation. By 1995, California's student population is expected to increase by 900,000 due to increases in the birthrate and immigration. At the same time, an estimated 25,000 to 60,000 teachers will retire, and an expected 35,000 to 65,000 teachers will leave education for the private sector (Educational Employment Quarterly, 1985). In the next decade, therefore, California will need to recruit, depending on estimates, between 90,000 to 190,000 additional teachers (Cagampang, Garms, Greenspan, & Guthrie, 1986; Cagampang & Guthrie, 1988). Cagampang et al. (1986), using conservative estimates of the state's ability to train new instructors, to attract out-of-state professionals to California, and to induce reserve-pool teachers to re-enter the profession, forecast a possible shortfall of between 21,300 and 34,800 teachers by 1990.

Large numbers of these new teachers will be needed in the urban areas of Southern California. Schools in the Los Angeles Metropolitan area alone are adding students at the rate of 14,000 a year (Educational Employment Quarterly, 1985). Unfortunately, these urban schools have the most difficulty in recruiting and retaining teachers. Los Angeles Unified School District reportedly accounts for more than half the teacher shortages in the western region and one-fourth of all the shortages in the nation.

School districts in Southern California rely disproportionately on emergency credentials or using out-of-field teachers to fill gaps in staffing. The California Basic Educational Data System (CBEDS) shows that in 1985-1986 (the latest year for which data are available) emergency credentials represented 20% of all first-issued and added credentials in

California (PACE, 1988). In 1985-1986, and for each of the five consecutive years, 40-45% of all new teachers hired by LAUSD were on emergency credentials (LAUSD Personnel Division, 1986-90).

A PACE analysis of CBEDS data for 1985-1986 indicates that 12% of California teachers were instructing outside of the field for which they are certified (PACE, 1988). The number of classes taught by inappropriately credentialed teachers is largest in the areas of bilingual education (60% of classes taught by misassigned teachers), followed by mathematics (26%), social science (21%), science (21%), and English (15%). In California high schools during the 1985-1986 school year, 36,652 math classes and 29,302 science classes (between 18 and 30% depending on type of class) were taught by teachers with emergency certificates (Cagampang & Guthrie, 1988). This means in one year alone approximately 1,900,000 California high school students were taught math and science by teachers who were not certified to teach these subjects.

Once again the effects of the teacher shortage are particularly obvious in Southern California, where a disproportionately high number of teachers are inadequately qualified in the subject they teach. Three adjacent counties in the Los Angeles Basin—Los Angeles, Orange, and San Diego—employed 53% of inappropriately credentialed California math teachers and 54% of inappropriately qualified science teachers (Cagampang & Guthrie, 1988).

Southern California has a particular need for bilingual teachers. The number of limited-English-proficient (LEP) students in California public schools has nearly tripled over the past decade—from about 230,000 to approximately 600,000 in 1987 or about 13% of the student population (PACE, 1988). The majority of these students—67.6%—attended school in nine southern counties. Los Angeles County alone enrolled more than 240,000 LEP students, accounting for 46% of the statewide total. More than one-third of the bilingual credentials issued in 1985-1986 (32.4%) were emergency certificates, up more than 6% from 1984-1985: Sixty percent of the teachers who are teaching classes designated by school districts as "bilingual" do not possess bilingual credentials (PACE, 1988).

There is little hope of recruiting sufficient teachers to meet Southern California's need through traditional sources of teacher supply. Overall enrollment in basic teaching credential programs declined by 1,228 (5%) from 1984-1985 to 1985-1986 and by 6,280 (32%) from 1985-1986 to 1986-1987 (California Commission on Teacher Credentialing, 1987b). In 1986-1987, the majority of these new teachers were white—minorities represent only about 13% of candidates recommended for credentialing by California State University System (CSU) which trains approximately

70% of teachers hired in California (PACE, 1988). Traditional approaches to teacher recruitment and training are unlikely to reverse this trend. A recent survey indicates that many California teacher education institutions, in an attempt to raise academic standards, are limiting enrollments by reducing or capping the number of students admitted into the program or into student teaching (Roth, 1988). In areas where California teacher education institutions have been successful in increasing enrollments, these increases are not sufficient to meet demand; there are still more emergency credentials than first credentials of other types being issued (Cagampang & Guthrie, 1988).

Alternative Certification as a Response to Teacher Shortages

Proponents of alternative routes to teacher certification have argued that an appropriate response to the teacher shortage would be to restructure teacher certification regulations to expand the recruitment population beyond the traditional teacher education cohort and make entry into teaching easy for individuals at other ages and stages in their careers. Early in the decade, several national reports included recommendations aimed at attracting outside experts into mathematics and science teaching (Boyer, 1983; National Commission on Excellence in Education, 1983; National Science Board, 1983). These reports suggested that having qualified scientists and mathematicians assist in developing and delivering instruction would improve school instructional programs. Other have suggested that eased entry into teaching should be provided for mature individuals willing to transfer into teaching from other professions. These recruits might include early retirees, including technical experts from the armed services, homemakers who wish to reenter the work force and bright young graduates of the arts and sciences who are undecided about their career direction and are willing to devote a few years to teaching (Gray, 1987; Wimpelberg & King, 1983).

Another perspective has been offered by Haberman (1990) who argues that in order to recruit large numbers of individuals willing to and capable of teaching in difficult school environments—particularly urban areas with diverse student populations—a different type of individual needs to be recruited into teaching. The traditional route into teaching has been through the undergraduate major. As a consequence about 70% of newly qualified teachers are under 25 years of age (NCES, 1990a). Haberman argues for recruiting a greater number of mature individuals into teaching. He believes that college-age students, still in the stages of late adolescence and early adulthood, are not developmentally mature enough to teach in difficult environments.

Under traditional certification standards, potential teachers in all these groups would have to complete professional education college coursework before they could be granted a teaching credential and be allowed to assume full-time paid teaching jobs (Feiman-Nemser, 1990). Proponents of alternative routes to teacher certification believe that most of these individuals would be unwilling to take college-based coursework or assume the educational costs of becoming a teacher. Alternative routes to teacher certification, therefore, allow individuals to earn a teaching credential while they work and are paid as full-time teachers. Such routes reduce the time and financial costs of entry into teaching (Adelman, 1986; Carey et al., 1989; Stoddart, 1988).

Although alternative routes to teacher certification usually do not require college-based teacher education, most do provide some form of professional education (Adelman, 1986; Neuweiler, 1988). It has been argued that this on-the-job teacher education is a significant improvement over the emergency credential system which allows unqualified individuals to teach with no formal system of guidance or support (Cooperman, 1985).

The LAUSD Intern Program: A Case Study

The research reviewed in the first half of this article indicates traditional methods of teacher recruitment have been unable to deal effectively with the staffing needs of many urban school districts. In 1983, in response to growing concerns about the chronic teacher shortage in the urban districts of Southern California, the California State Legislature included a teacher trainee provision as part of the Hughes-Hart Education Reform Bill (Senate Bill 813). This regulation allowed school districts which can verify teacher shortages to hire uncertified individuals as secondary school teachers and to offer a training program through which they can become licensed. The individual to be appointed must have a baccalaureate degree with 20 units in a subject matter major, pass a state-approved exam in the subject area to be taught, and pass the California Basic Educational Skills Test (CBEST). Participating school districts must create and implement a 2- to 3-year program of professional training and provide the intern with support by a mentor teacher.

In developing the program, the school district is required to consult with an accredited institution of higher education but is not legally mandated to implement recommendations offered by the institution. The school district must submit its professional development plan to the Commission on Teacher Credentialing for verification. In 1987, Assembly Bill 1728 authorized expansion of the program to include elementary and bilingual teachers and renamed it the District Intern Program. In 1988, the Bergenson Act (Senate Bill 148) made it more difficult for school districts to hire emergency credential teachers, requiring that they focus on recruiting certified teachers and teacher candidates pursuing full certification through the District Intern Program.

In 1984, LAUSD instituted a District Intern Program (originally called the Teacher Trainee Program) designed to recruit academically competent individuals in areas of subject matter shortage to teach in hard-to-staff schools (Stoddart, 1988; Stoddart & Floden, 1989). Originally developed to recruit secondary English, mathematics, and science teachers in 1988, the program was extended to include elementary and bilingual education teachers. Since 1984, LAUSD has recruited and trained 1100 novice teachers—approximately 96% of the alternative route candidates trained in California (California Commission on Teacher Credentialing, 1987a; LAUSD Personnel Division, 1989-1990).

The second half of this article uses the Los Angeles Unified School District Intern Program as a case study to examine the use of an alternative route to teacher certification as a context-specific teacher recruitment and training policy. It addresses four main questions: (a) How effective is the LAUSD Intern Program in meeting the District's teacher recruitment needs? (b) What kind of individuals does the program recruit and how do they differ from the traditional teacher education population? (c) What kind of professional education does the LAUSD program provide? and (d) How do alternative route teachers compare to university-educated teachers?

Method

The analyses reported in this article are based on two sources of data: (a) demographic data supplied by the LAUSD Personnel Division, and (b) data drawn from the "Teacher Education and Learning to Teach" study (TELT) of the National Center for Research on Teacher Education (NCRTE) at Michigan State University (Ball & McDiarmid, 1988, NCRTE 1988). To analyze the success of the LAUSD intern program in recruiting teacher candidates to meet the District's needs, demographic statistics provided by LAUSD Personnel Divisions for the years 1984-1990 were used to examine intern recruitment patterns, attrition rates, academic qualifications, school assignments, and background characteristics. To provide a context for evaluating these recruitment trends, comparison statistics are cited, when available, from the American Association of Colleges of Teacher Education RATE III study (AACTE, 1989) and the National Center for Educational Statistics data on newly qualified teachers (NCES, 1990a). NCRTE interviews with the program director, instructors, and mentor teachers, and tape recordings of a sample of teacher education classes were used to evaluate the focus and content of the program.

Findings

Teacher Recruitment

One of the main goals of the LAUSD program is to recruit academically competent individuals to teach in its hard-to-staff schools. As Table 1 shows, the LAUSD District Intern Program has recruited 1100 new teachers into the district in the last 6 years—103 bilingual teachers, 316 elementary teachers, 240 English teachers, 184 math teachers, and 257 science teachers. Eight hundred and fifty-five of these recruits, about 70%, are still teaching in the District. The intern program now trains about 300 new teachers a year. This number is equivalent to one of the smaller California State University (CSU) campuses (Morey, 1983).

Another of the main goals of the program is to reduce the number of marginally qualified emergency credential teachers working in the district. Among all new LAUSD teachers recruited, the percentage in the intern program increased from 3.7% in 1987-1988 to 11.4% in 1989-1990. During the same period the percentage of new teachers who had emergency credentials decreased from 47% to 34%. The percentage of college-trained teachers entering the district with a clear teaching credential, however, remained constant—between 34-36%. The District Intern Program appears to be serving its purpose by decreasing the proportion of emergency credential teachers entering the district's schools. It is not, however, adversely affecting the recruitment of college-trained teachers.

Another of the program's goals is to recruit competent teachers who are willing to work in hard-to-staff schools. An increasing number of interns are teaching in the district's "priority staff program" (PSP) schools—which are hard-to-staff inner city schools with high proportions of low-income and minority students. The proportion of all new teachers in PSP schools who were district interns increased from 5.3% in 1987-1988 to 18.5% in 1989-1990. In the same period the proportion of emergency credential teachers hired into PSP schools declined from 43% to 32%.

LAUSD has high recruitment needs for teachers in mathematics, science, and bilingual education, subject areas where there are chronic national shortages (ASCUS, 1986; LAUSD Personnel Division, 1986-1990). Between 1984-1990, the intern program recruited 184 mathe-

Table 1

Number of Teachers Trained by LAUSD by Subject Area and Level of Teaching

Cohort	English	Math	Science	Elementary	*Bilingual* Elementary	Total
I (1984-1985)	93	30	64	0	0	187
II (1985-1986)	36	32	63	0	0	131
III (1986-1987)	46	33	38	0	0	117
IV (1987-1988)	19	37	36	0	0	92
V (1988-1989)	20	29	33	105	56	243
VI (1989-1990)	26	23	23	211	47	330
Totals	240	184	257	316	103	1100

matics teachers (between 15-34% of its recruitment needs per year) and 257 science teachers (between 17%-31% of its recruitment needs per year). This was a remarkable achievement considering that in the same period it has been estimated that the universities and colleges were producing less than one new math or science graduate for every 10 school districts in the United States (Darling-Hammond et al., 1989). In 1984, 775 students graduated nationally with a degree in mathematics education, 103 from California institutions. In the same year, LAUSD began training 30 new math teachers, about 4% of the national figure and 16% of the California figure. Also in 1984, 702 science education majors graduated nationally, 191 of them from California institutions. In 1984-1985, LAUSD began training 64 new science teachers or approximately 9% of national production and 34% of California production (Cagampang & Guthrie, 1988; CES, 1987).

In 1988, to fill its need for bilingual teachers in elementary schools—about 60% of students in kindergarten and first grade come from homes where English is not the primary language—LAUSD began to recruit bilingual elementary education teachers into the intern program. In 1988-1989 and 1989-1990, respectively, 17% and 25% of new elementary bilingual teachers were recruited through the Intern Program.

These figures suggest that district-run alternative certification programs can recruit candidates in high demand subject areas to teach in hard-to-staff urban schools, and they reduce the need to hire teachers on emergency credentials.

Subject matter preparation. The LAUSD Intern program is recruiting individuals to teach in hard-to-staff schools, but are they academically competent? In recent years there has been an increasing focus in teacher education policy and research on the subject matter preparation of teachers. Reform groups such as the Holmes Group (1986) and the Carnegie Task Force on Teaching as a Profession (1986) emphasize the pivotal role of subject matter knowledge in teaching and argue for increased emphasis on subject matter preparation. This focus on the content knowledge of teachers follows a decade of concern about teachers' general academic competence. A number of studies concluded that teaching tends to attracts students of low academic ability and fails to attract substantial numbers of academically gifted students (Lanier & Little, 1986; Vance & Schlechty, 1982; Weaver, 1979). The Holmes Group, the major university-based reform group in teacher education, has proposed that a baccalaureate degree with general liberal arts education and subject matter specialization should be a prerequisite for entering teacher education (Holmes Group, 1986).

To examine the subject matter preparation of LAUSD interns an analysis was made of the academic transcripts of the 92 secondary English, mathematics, and science interns who entered the program in the Fall of 1987. Three variables were used to assess subject matter preparation: the number of courses taken in the academic major, GPA in the academic major, and institution attended.

In order to be admitted to the intern program all candidates must have a baccalaureate degree with an academic major. In addition, the secondary interns must have completed 20 semester or 30 quarter units in the subject area to be taught. The majority of LAUSD secondary interns have substantial preparation in the academic disciplines they teach. Fifty-two percent of mathematics interns, 83% of English interns, and 84% of science interns have completed at least twice that number of units in the academic subjects they are teaching. Approximately 60% of these courses were taken at the upper division level and about one-quarter were graduate courses. To ensure that this subject matter knowledge is current, secondary interns must also pass the National Teacher Exam (NTE) in the content area they teach: the passing score for English is 620, mathematics 630, biological science 680, and physical science 630. Academic transcripts were not available for elementary interns (who were not part of the NCTE study), but each must have a baccalaureate degree with any academic major (the general liberal arts education recommended by the Holmes Group, 1986), and with college level course work in 8 of the following 10 subject areas: language studies, literature, history, social sciences, mathematics, sciences, humanities, visual/performing arts, physical education, and human development. They must also pass the NTE general knowledge exam with a score of 660. In contrast, 75% of new qualified elementary and secondary school teachers who graduated in 1986 majored in education, not in an academic discipline (NCES, 1990a).

The GPAs of the secondary interns compare favorably to those of the college-based teacher education population. Sixty-five percent of science interns, 61% of English interns, and 39% of mathematics interns have GPAs of 3.25 or higher on a four point scale in their subject area specialty and only 9% of interns have GPAs below 2.75. NCES (1990a) statistics for teachers who qualified in 1987 show that 48% had GPAs of 3.25 or higher and 14.5% had GPAs below 2.75. The higher proportion of lower achieving math interns is probably related to California's highly competitive job market for graduates in mathematics (Levin, 1985).

Finally, analysis of subject matter preparation can be examined in relationship to the degree granting institution, since student populations, grading practices, and rigor of the curriculum vary widely between institutions. The majority of the secondary interns graduated from academically rigorous institutions. Forty-five percent of these interns attended University of California campuses which select from the top 10% of the high school graduating class and 28% attended other institutions with comparable academic standards. The remaining 27% graduated from California State University campuses that recruit from the top 40% of high school seniors.

Attrition. The LAUSD intern program appears to be making a significant contribution in recruiting academically able individuals to teach in hard-to-staff inner city schools. But will they remain in teaching? Nationally, the attrition rate among newly-prepared and beginning teachers appears to be high. A recent NCES (1990a) survey reports that only 61% of newly qualified teachers who received their degrees in 1985-1986 were teaching in April 1987. The most recent data available on attrition in the first 3 years of teaching indicates that 40% of the cohort of teachers who entered the profession in the late 1970s left teaching (Schlechty & Vance, 1983). Given that many of the LAUSD interns are placed in difficult-to-staff PSP schools and hold qualifications which would enable them to easily obtain other jobs, the LAUSD intern attrition rate might be expected to be high. As Table 2 shows, the attrition rate for cohorts of LAUSD interns in the first 3 years of teaching is lower than would be expected on the basis of national figures: Only 18% of cohort IV interns who entered the program and began teaching in 1987 have left the profession. The figures from cohorts I, II, and III indicate the rate of attrition from LAUSD increases after the 3rd year of teaching. Of the first cohort, who entered teaching in 1984 and have been teaching for 6 years, only 53% are still working in the LAUSD public schools. It is unclear how many of the interns who resigned from LAUSD left the teaching profession. Of 245 interns who resigned between 1984 and 1989, 46 indicated they were leaving the profession, 43 indicate they were mov-

Table 2
LAUSD District Intern Attribution Rates

		Active	*Inactive*	*% of Attrition*
Cohort I	1984-1985	88	99	53%
Cohort II	1985-1986	68	63	48%
Cohort III	1986-1987	76	41	35%
Cohort IV	1987-1988	75	17	18%
Cohort V	1988-1989	225	18	7%
Cohort VI	1989-1990	323	7	2%
	Total	855	245	29%

ing to another teaching position, and the rest cited family or personal reasons or did not specify (LAUSD Personnel Division, 1989).

Two factors may influence the relatively low intern attrition rates in the first 2 years of teaching: (a) LAUSD interns are enrolled in a program which provides support from a mentor teacher and weekly teacher education seminars, while most beginning teachers receive little support, and (b) they must successfully complete 2 years of full-time teaching in order to receive their teaching credential.

Why did interns choose an alternative route to teacher certification? When asked why they chose to enter the LAUSD program rather than enrolling in a college-based teacher education program, interns gave three main responses: (a) financial need, (b) the belief that one could learn to teach more effectively by practical experience, and (c) reluctance to take more university coursework. Sixty-four percent of interns said they chose the alternative route program for financial reasons—they had a family to support or they had a high debt load from financing their undergraduate education. Twenty-eight percent said they preferred learning to teach on the job. Justifications two and three were frequently linked together; for example, "University courses are too theoretical; they don't have anything to do with doing a job. I think I can learn more by getting out there and doing it" (secondary science intern). The remaining 8% gave idiosyncratic answers such as "it was there," or "my mom's a teacher." These data indicate that many of these new recruits to teaching would not or could not have entered teaching through the traditional college-based route.

How Do Interns Compare to College-Based Teacher Education Candidates?

Age and prior work experience. One of the arguments in favor of alternative routes into teaching is that such programs could change the demographics of the teacher pool. Older individuals, it has been suggested, bring greater maturity and resilience to the teaching situation along with the accumulated expertise they have acquired in the workplace; they are also more likely to cope in difficult teaching environments (Fox, 1984; Gray, 1987; Haberman, 1990). LAUSD elementary and secondary interns tend to be older than the general teacher education population, with about two thirds of the interns being 26 years or older and almost a third of them being over 35 years of age. In 1987, only 29% of newly qualified teachers were older than 26 years (NCES, 1990a).

NCRTE researchers collected data on the prior work experiences of secondary interns who enrolled in the program in 1987-1988 and 1988-1989. As would be expected from the age distribution, many of the

LAUSD interns have transferred into teaching from other occupations. Table 3 shows the percentage of these secondary interns in three categories of prior work experience: (a) those who had not held a full-time job and entered teaching straight from school or college; (b) those who had worked in an occupation related to the subject they are teaching (e.g. English—copywriter, secretary, journalist; mathematics—engineer, accountant, surveyor; science—researcher, laboratory technician, marine biologist, forest service); and (c) those who had worked in occupations unrelated to what they are teaching (e.g. musician, salesman, truck driver, substance abuse counselor). Overall, 58% of secondary interns had transferred from other professions. Mathematics candidates were least likely to have transferred from another profession—53% of math interns entered teaching directly from college. The science interns were most likely to have transferred from another profession and to have worked in a job related to the discipline they teach. Data are not available for the elementary interns who were not part of the NCRTE study.

The percentage of mathematics and English interns who have prior work experience in an occupation related to the discipline they teach is low—22% and 11% respectively. Few of these interns, therefore, bring into teaching the espoused benefits of applied experience in their discipline. The number of LAUSD interns transferring into teaching from science occupations, however, is comparatively high. Over the past 20 years experienced scientists have rarely entered teaching. Darling-Hammond et al. (1989) report that of 21,423 respondents employed in

Table 3
Percentage of Secondary Interns in Three Categories of Full-time Work Experience

	Straight from College	*Work Experiences in Field Related to Academic Discipline Taught*	*Unrelated Work Experience*
English (n = 36)	44%	11%	45%
Mathematics (n = 61)	53%	22%	45%
Science (n = 63)	28%	44%	28%

scientific and technical occupations in 1970, no more than 121 (about 0.5%) switched to precollege teaching during the course of the decade. Moreover, most of these did not stay in teaching for more than 1 or 2 years. Only three of these 121 appear to have worked as teachers over the entire decade. Their analysis of the NSF data from the 1980s revealed a similar pattern among scientists of whom only about 0.2% entered precollege teaching in 1982 or 1984. Over the past 6 years LAUSD has consistently recruited small but significant numbers of qualified and experienced scientists into teaching.

Gender. The college-based teacher education population is predominantly white and female (AACTE, 1989). The LAUSD Intern Program recruits a greater number of men than the typical college-based teacher education program. During the period 1984-1989, 60% of LAUSD interns were male compared to about 30% of newly qualified teachers (NCES, 1990a). Of particular interest is the number of males recruited into elementary education—40% of elementary interns are male compared to only 7% of elementary teacher education candidates (AACTE, 1989).

Ethnicity. The percentage of minority teachers in U.S. schools is declining at the same time as the proportion of minority students is increasing. In 1987, about 13% of all American teachers were from minority groups (NCES, 1990b). In the same year, approximately 12% of newly qualified teachers were from minority groups—4.8% Hispanic, 5% Black, 1.2% Asian, and 0.6% American Indian (NCES, 1990a). In 1988, only 8% of teacher education students enrolled in a nationally representative sample of college programs were minorities (AACTE, 1989). In the same period the LAUSD intern program was recruiting minority teachers at a much higher rate than the percentage recruited through traditional university routes. Over the 6 years since the program's inception, almost one-third (307 out of 1100), of the teachers recruited through the intern program have been from minority groups—12% were Hispanic, 9% Black, 6% Asian, and the remaining 2% American Indian, Filipino, or Pacific Islander. Darling-Hammond et al. (1989) also found that teachers recruited through alternative route programs were more likely to be from minority groups.

It could be argued that this comparatively high recruitment rate for minorities is a function of California's ethnic diversity. California is the most racially and ethnically diverse state in the country; about half the population comes from minority groups (PACE, 1989). The LAUSD Intern Program, however, recruits minorities at a much higher rate than the California State University System (CSU) which prepares 70% of teachers in California (PACE, 1988). The most recent figures from the CSU show that in 1986-1987 about 13% of teachers recommended for credentialing from that institution were from minority groups—2.2% Asian, 1.9% Black, 7.2% Hispanic, and 1.6% other.

The program also has a good retention rate for minority teachers. Of the 307 minority interns recruited by the district, 266 are still teaching in LAUSD—an overall retention rate of 87% compared to 74% for white interns.

Dispositions towards teaching in urban schools. A prevailing problem in urban education is the recruitment of qualified teachers willing to teach in urban schools. In every state the urban areas rely on uncertified or misassigned teachers, while neighboring suburbs have up to 500 applicants for each job (Haberman, 1988). The typical college teacher education graduate prefers to teach in a suburban rather than an urban school. The data presented above demonstrate that the population recruited into the LAUSD alternative route program differs from the traditional teacher education pool on several demographic dimensions—they are older, more likely to be male, to be persons of color, and to have transferred from other occupations. They also differ in their prior experience with and dispositions towards teaching in urban schools.

LAUSD elementary and secondary interns have more experience living and working in urban environments than the typical teacher education graduate. Seventy percent of LAUSD interns grew up and attended school in a city compared to only 22% of teacher education students in the RATE III national survey of teacher education programs (AACTE, 1989). Also a large percentage of the interns are positively disposed towards teaching in urban schools. About 70% of interns compared to only 18% of the RATE III teacher education students say they would prefer to teach in an urban school. The majority of the teacher education students want to teach in suburban neighborhoods or small towns (AACTE, 1989).

The LAUSD interns also hold higher expectations for low income and minority students when compared to a NCRTE national sample of college-educated candidates enrolled in traditional teacher education programs. Ninety-five percent of elementary interns, 95% of secondary English interns, and 81% of secondary mathematics interns believe that low income and minority students are capable of learning higher order concepts in the subject areas they teach. In contrast, only 76% of elementary teacher education candidates, 70% of English teacher education candidates, and 60% of mathematics teacher candidates held the same expectations. At least one third of the traditional teacher education candidates believed these students should be only taught basic skills in reading, writing and grammar, and arithmetic.

These findings are not surprising given that LAUSD interns are "selfselected"—they have chosen to live and work in a large multicultural city. In many cases, the students they work with come from backgrounds similar to their own and they can identify with the students (Gomez & Stoddart, 1991). In contrast, the typical teacher education graduate grows up in a small town or suburb and chooses to work close to home (AACTE, 1989). They are not familiar with urban schools or diverse student populations and often find it difficult to relate to students they view as different from themselves (Gomez & Stoddart, 1991). LAUSD interns also tend to be older and come into teaching with a wide range of life experiences. Haberman (1990) has argued that maturity makes it easier for teachers to relate to students who are different from themselves.

The LAUSD Intern Program is recruiting and retaining academically competent teachers in subject shortage areas to teach in hard-to-staff inner city schools. Many of these teachers bring with them positive dispositions towards teaching in urban schools, dispositions not commonly found in the traditional teacher education population. Recruitment is only the first step, however, in professional development. The next section of this article discusses the structure and content of the professional education provided by the LAUSD program.

Training and Support

Critics of alternative routes to teacher licensure have cautioned that such programs may not be equivalent in substance and rigor to college-based programs of teacher education (AACTE, 1986; Gideonse, 1984; Roth, 1986). The basic structure of the LAUSD Intern Program, however, is similar to that of a California college-based program. The California Teacher Preparation and Licensing Act of 1970, also known as the Ryan Act, sets out the basic requirements for teaching credentials in California. As Table 4 shows, candidates in both college-based and alternative groups are required to complete a baccalaureate degree, pass a subject matter competency exam or approved coursework, pass the CBEST, and complete a program of post-baccalaureate professional training before being recommended for a teaching credential.

The amount of time spent in coursework is also equivalent to the requirements for California college-based programs. The Ryan Act requires that candidates enrolled in college-based teacher education programs must take at least nine units of professional education coursework and one semester of student teaching (California Commission on Teacher Credentialing, 1985). The majority of California teacher education institutions limit their programs to one academic year—three quar-

Table 4
Comparison of Routes to Teacher Certification in California

College-Based Route	*LAUSD* *Alternate Route*
Earn a bachelor's degree from an accredited college or university.	Earn a bachelor's degree from an accredited college or university.
Pass the state Basic Skills proficiency test (CBEST).	Pass the state Basic Skills exam, proficiency test (CBEST) and the NTE.
Be admitted to teacher education program.	Be hired as district intern by school district.
Complete one year of post-graduate study consisting of supervised teaching and professional courses, including courses in reading instruction, health education and special education.	While teaching satisfactorily for two years with a mentor, complete a professional development program which is developed by the school district.
Be recommended for a teaching credential by the college or university.	Be recommended for a teaching credential by the school district.

ters or two semesters—including student teaching (Morey, 1983; Roth, 1988). Coursework in a typical California post-baccalaureate 5th year program, therefore, is equivalent to about 200 clock hours: Coursework in the LAUSD program amounts to about 240 clock hours in the secondary program and 256 clock hours in the elementary program. This is also comparable to typical undergraduate college-based secondary education programs in which students complete 26 credit hours (260 clock hours) in professional education, including student teaching, but less than the typical elementary education program where students complete an average of 50 credit hours (500 clock hours) including student teaching (AACTE, 1987).

The focus of the coursework provided by the intern program is also similar to that provided by college programs. The professional sequence for college-based elementary teachers typically covers some sort of introduction to education; a course in educational psychology; six or seven methods courses for teaching reading, social studies, arithmetic, science, art, and music; and student teaching. For secondary teachers, it involves a course in educational psychology, a general methods course, a subject-specific methods course, and student teaching (Feiman-Nemser, 1990; Scannell, 1987). As Tables 5 and 6 show, the LAUSD intern program covers similar topics.

Table 5
Schedule of LAUSD Elementary Intern Classes

Yearly Schedule	*Clock Hours*	*Course Titles*
Fall Semester	16	Stages of child psychological and cognitive development
	16	Curriculum and methods of teaching reading and the language arts
	16	Practice in teaching skills
Spring Semester	16	Aligning classroom organization and management with development
	16	Curriculum and methods of teaching mathematics and science
	16	English for speakers of other languages
	16	Practice in teaching skills
Summer	32	Multicultural education: General
Fall Semester	16	Curriculum and teaching methods of teaching social science, music, and art
	16	Multicultural education: Specific
	16	Practice in teaching skills
Spring Semester	16	Curriculum and methods of teaching movement, health, safety, and environmental education
	16	Overview of children with special needs
	16	Computer literacy
	16	Practice in teaching skills

The LAUSD Intern program, however, is not as academically rigorous as a typical college-based program. In the LAUSD program there are no formal assignments or examinations; regular class attendance is the only criterion for passing a course. The emphasis of instruction is also different. College-based programs attempt to prepare teachers who can critically analyze and reflect on a wide range of educational theory and curriculum and instructional practices (Feiman-Nemser, 1990). The LAUSD Intern Program focuses on preparing teachers to effectively use the District's approach to curriculum and instruction.

District interns teach full-time while they participate in a 2-year program developed and administered by the district's staff development personnel. The training program has four components: (a) a 15-day

Table 6
Schedule of LAUSD Secondary Intern Classes

Yearly Schedule	*Clock Hours*	*Course Titles*
Fall Semester	16	Classroom management in an urban setting
	16	Reading instruction in the content fields and quality skill building
	16	Practice teaching skills
Spring Semester	16	Bilingual, ESL and other language development and instructional practices
	16	Assessing, diagnosing, and reporting achievement
	16	Practive in teaching skills
Summer Five Days	32	Multicultural education: General
Fall Semester	16	How learning occurs
	16	Methods of teaching English, Mathematics, and science
	16	Practice in teaching skills
Spring Semester	32	Multicultural education: Specific Practice in teaching skills
	16	Interdisciplinary overview of Children with special needs
	16	Practice in teaching skills

preservice orientation to LAUSD's policies, procedures, and curriculum held in the 2 weeks before interns begin teaching; (b) 2 years of in-service training, which comprises 18 modules organized around the Carnegie units and which is taught in a 2-hour after-school weekly seminar; (c) one week of multicultural education at the end of the 1st year of teaching; and (d) support by a mentor teacher. If they complete the program and receive a positive evaluation from the school principal, the school district recommends them to the California Commission on Teacher Credentialing for a teaching credential.

The training is district-specific. The content of the LAUSD Intern Program covers many topics that would be included in most college-based teacher preparation programs, and also includes substantial attention to areas that are specific to Los Angeles or are of special importance for teaching in inner-city schools. The program developers recognize that this approach is different from that taken by a university-based program that attempts to prepare students for the wide variety of teaching jobs graduates may undertake. As one program director stated,

> That's what I think is real different, that we're district specific. So that's what I notice about some university-prepared teachers, is that they have to relearn, and I think one of the side benefits [for the interns] is that they have an initial learning. One way, the way things are done in the district.

Throughout, the training is oriented toward helping teachers succeed in the LAUSD schools. Thus, for example, modules on teaching reading, mathematics, science, and so on, focus on analyzing representative objectives from the subject and grade-level specific LAUSD *Guidelines for Instruction* (LAUSD, 1985) and planning appropriate instructional activities. All the instructors are trained in, explicitly teach, and model the "Madeline Hunter" method which is the approach to instructional organization and delivery prescribed by the district and the basis of the district's evaluation process.

In selecting content and procedures, the program developers and instructors focus on content that will help the interns improve their instruction to their current students at that moment. There is a strong emphasis on demonstrating instructional activities and providing lesson plans, dittos, and instructional materials for trainees to use with their own classes. Courses do not typically discuss theory or research other than summaries of research, for example, instructional practices derived from the effective teaching literature (e.g., Good & Brophy, 1984). A lot of time is spent discussing the application of the material the instructor is presenting to specific incidents that have occurred in interns' classrooms. The emphasis on district curriculum and instructional practices is reinforced by the experienced teachers who teach the classes and mentor teachers who give generously of their wisdom of practice—"what works for me in my classroom."

Pre-service training. The 15-day pre-service training consists of a series of seminars and 2 days of observation in school. Secondary students are grouped by subject matter specialty (English, math, or science); elementary students into regular or bilingual groups. It is explicitly focused on inducting interns into the district. The training was described by the program directors as a "crash course in survival skills." Analysis of transcripts of the classes offered in the 3 weeks of pre-service training revealed four main categories of knowledge taught in the pre-service component: (a) procedural knowledge, including the regulations and procedures of LAUSD (how to fill in a roll book, how to make sure you get your paycheck on time, how to get a substitute teacher if you are ill, how to report child abuse, etc.); (b) the subject matter content prescribed by the state and LAUSD, published in curriculum guidelines which specify learning objectives for each grade level; (c) the district's approach to organizing and planning instruction based on the Madeline Hunter five-step lesson plan; and (d) survival skills—how to get through the 1st day or week, lists of things for students to do referred to as "sponge activities" (dittos, handouts, games) which "mop up" extra time, what to do with disruptive students, and lessons prepared by the L.A. Times.

Three themes pervaded the pre-service training: (a) "You are now part of the LAUSD team." Instructors and personnel department staff pointed out the benefits of working in LAUSD and stressed that it should be viewed as a longterm career commitment; (b) "You will fail at first, but you will survive and become an effective teacher." Instructors provided many examples of beginning teachers, including themselves, who experienced difficulties when they first began teaching but eventually became effective teachers; and (c) all children regardless of race, gender, or social class can learn effectively, and it is your duty as teachers to ensure that they succeed.

The year-round training. Throughout their 2 years in the program, trainees attend 2-hour training sessions every Thursday afternoon from 4:00 to 6:00 p.m. They can choose to attend one of three regional training centers. Over the 2-year period they take a series of seminars organized around Carnegie units. Each 16-hour (8 week) module is regarded as equivalent to one college unit (nontransferable) and earns the intern a one-point advancement towards salary.

At the beginning of each session, interns meet as a group with an intern program supervisor to discuss practical problems and issues that have come up in their teaching during the week. Interns find these weekly discussion sessions a useful way to vent frustrations and a source of ideas for dealing with specific classroom problems. Because they spend 2 years as a cohort going through the weekly after-school training, interns tend to form a support group for each other which helps them deal with the stresses of teaching.

The discussion of interns' school and classroom problems which precedes each session sets the context for the class which follows. Seminars cover topics similar to those taught in college-based programs of teacher education, but they tend to focus almost exclusively on practical and immediate application in interns' classrooms rather than discussion of underlying principles or critical approaches. Interns do not usually develop curriculum and instructional methods themselves but are presented with a variety of examples they can choose to use. A typical example of how instructors model instruction was provided in the English methods unit taught by an experienced English teacher. The course focused on teaching language arts through literature—"teaching into, through, and beyond literature"—the approach to English education developed by the district's advisory staff. The main goal of this program is to present "integrated, interrelated" lessons where integration is defined as blending reading, writing, speaking, and analysis of literature in one unit. The classes focused on presenting practical examples of this approach, not theory or research related to this approach. For example, in one class the instructor presented a model of a unit which used a short story to achieve a variety of instructional goals. The story was read aloud by students to promote reading skills, a class discussion helped develop student comprehension and communication skills, and students were required to write a letter to one of the characters to practice writing, grammar, and punctuation skills. The instructor engaged interns in thinking about the practical aspects of teaching this unit: sequencing and timing of instruction, adapting instruction to differing student needs, and fitting in with the district's curriculum and testing guidelines.

Multicultural education. In line with the program's emphasis on teaching in the context of the LAUSD schools, there is a strong focus on multicultural education. Approximately 40% of the time spent on coursework is devoted to this topic, including two courses and a "Multicultural Week" at the end of interns' 1st year of teaching. The LAUSD intern program assigns significantly more instructional time to multicultural education than is required by the state credentialing regulations for college-based programs. In California, college-based programs are required to include an emphasis on cultural diversity and the education of children whose primary language is other than English, but are not required to offer a specific course on the topic. Multicultural education may be integrated into other courses (California Commission on Teacher Credentialing, 1987c).

During Multicultural Week, administrators and specialists from the district office, teachers in district secondary schools, consultants, and university faculty make presentations to the trainees on multicultural issues. These sessions attempt to sensitize interns to the perspectives, backgrounds, and instructional needs of students from different cultures. Most of the instructors are themselves persons of color. McDiarmid (1990) analyzed the transcripts of the sessions in Multicultural Week and found four main objectives:

> 1. To influence interns' attitudes towards children culturally different from themselves and towards including information on cultural minorities and their contributions to history and knowledge.
>
> 2. To inform trainees about the history, customs, language, family life, religion, values and intra-group differences of various groups including Asian-Americans, Afro-Americans, and Mexican-Americans and other Latinos.
>
> 3. To inform interns about the effects of teacher behaviors (expectations and differences in "learning styles") on the achievement of students from non-Anglo backgrounds.
>
> 4. To demonstrate pedagogical techniques—for dealing with controversial topics in the classroom, for learning cooperatively, for incorporating information on black leaders into teaching, and for assessing students' "learning styles." (p. 10)

According to McDiarmid (1990) the program's emphasis on providing information about different cultural groups, the deleterious effects of prejudice and differential expectations, and demonstrating classroom techniques such as cooperative learning, is similar to the approach used in many traditional pre-service programs of teacher education. The LAUSD intern program, however, spends more time on multicultural aspects of education than do typical college-based programs (Grant & Secada, 1989).

Mentoring. The third component of training and support is the mentor teacher program. The California Senate Bill 813 specifies that if a district sets up a district intern program, they must provide mentors to guide and assist these new teachers for 2 years. The legislation allocates funds to districts participating in the mentor teacher program: $4,000 in stipends for each mentor, and an additional $2,000 per mentor to cover such costs as training, substitutes, release time, and travel. In addition to the $4,000 stipend above their salary, LAUSD mentor teachers are paid mileage and have a $150 budget to buy curriculum materials for the interns. They are given 23 days release time to work with interns, during which a substitute is assigned to their classrooms.

There are currently 1058 mentor teachers in LAUSD assigned to work with all beginning teachers or teachers new to the district (Weisbender, Champagne, & Maddahian, 1989). In line with the District's emphasis on multicultural education, many of the interns will be assigned a mentor who is a person of color. Forty-three percent of mentors are from minority groups—approximately 1% American Indian, 4% Asian, 32%

Black, 8% Hispanic, 57% White—a slightly higher overall percentage than in the total teacher population, which is 37% minority (Weisbender et al., 1989).

The mentors are selected through an elaborate screening process (training is even provided for the selection committees) in which about two thirds of the applicants are rejected. The mentor selection committee is composed of six teachers and five administrators. Teacher applicants submit written applications. Applications are evaluated on such elements as educational background, educational experiences, teaching performance evaluations (based on the Stull criteria described in the next section), a personal statement, professional references, and service record for the last 5 years (Weisbender et al., 1989). Those accepted are given a 30-hour training program based on research on effective teaching and mentoring techniques (Feiman-Nemser, Parker, & Zeichner, 1990). They are trained specifically in (a) the district's approach to instructional planning, classroom management, and organization which they will communicate to novices; and (b) techniques of classroom consultation, observation, and coaching—for example how to write a "script" of the lesson they are observing and how to structure a conference with a novice teacher (Little & Nelson, 1990).

New teachers are assigned to mentors on a 4:1 ratio, except in PSPs (priority staffing programs), where the ratio may be 2:1. Wherever possible, mentor teachers work in the same school and same subject area as the intern. Mentors provide guidance and support but do not evaluate the interns. In the first years of the program, at least 95% of the interns were assigned someone to work with them (about two thirds of these were mentors selected and trained through the process just described; the rest were other teachers and administrators). In contrast, only 32% of California's 1st-year teachers from college certification programs and 71% of emergency credential teachers received such support from a mentor teacher (California Commission on Teacher Credentialing, 1987a). These findings are in line with other research on alternative certification programs which indicates that they offer more clinical supervision than the typical teacher education program (Adelman, 1986).

A key question is, what do the interns learn from mentor teachers? Research on mentoring in the LAUSD intern Program indicates that mentor teachers, in line with the Program's context-specific emphasis, tend to induct interns into current school policy, procedures, and instructional practices rather than engaging them in reflection on a variety of approaches to instruction (Feiman-Nemser et al., 1990).

Criteria for successfully completing the program. To successfully complete the program, an intern must attend the pre-service training, Multicultural Week, and 2 years of weekly seminars. There are no written assignments or examinations. Three times a year the intern must complete forms that describe some of their own instructional practices, with a focus on classroom management and instructional planning. These forms must be shown to the site coordinator, the mentor teacher, and the principal, so that each has a chance to monitor and react to how the teacher is managing instruction. Interns must attend all classes and make up those they miss by taking a Saturday class or some other equivalent experience.

The main evaluation of the intern is conducted by the school principal according to the criteria in the Stull Evaluation Guidelines, which are the state-mandated beginning teacher evaluations. The intern must receive positive evaluations from the school principal to remain in the intern program and to be recommended for a teaching credential. At least three times a year, the intern prepares a statement of instructional objectives for a class which the principal observes, and subsequently the intern teaching receives written feedback on their performance. The evaluation focuses on five areas of teacher performance: (a) achievement of instructional objectives evaluated primarily by student performance; (b) preparation and planning focusing on specifying instructional objectives and providing appropriate instructional materials; (c) classroom performance evaluated by adherence to the Madeline Hunter model, setting homework, and maintaining discipline; (d) general professional skills including relations with other faculty and staff, professional appearance, and record keeping; and (e) punctuality and attendance. The intern is graded as "satisfactory," "unsatisfactory," or "needs improvement" on 22 subcategories. If an intern receives more than three "needs improvement" grades, he or she may be removed from the program.

The criteria for successful completion of the program are thus strongly loaded towards demonstration of ability to teach in the particular classroom to which the teacher has been assigned, using the curriculum and approaches to instruction defined by the district to the satisfaction of the school principal. Interns are required to participate in classes that cover the foundational content covered in college-based programs, but they are not tested on this content, nor required to write papers that might demonstrate their understanding. Consistent with the local emphasis of the program, the requirements for completion are oriented towards success in the practice of teaching in this particular context as defined by the Stull Evaluation Guidelines.

Comparisons of LAUSD Interns With University-Educated Teachers

The LAUSD Intern Program provides a comprehensive program of on-the-job professional training which focuses on preparing teachers to work in the Los Angeles public schools. Eight hundred and fifty-five of these alternative route teachers are currently teaching in LAUSD (LAUSD Personnel Division, 1986-1990). How do these teachers compare to university educated teachers? This section discusses the findings of several recent studies which compared the pedagogical knowledge and skills of LAUSD secondary alternative route teachers with those of conventionally educated teachers (Ball & Wilson, 1990; California Commission on Teacher Credentialing, 1987a; Gomez & Stoddart, 1991; Stoddart, 1991).

Researchers from the California Commission on Teacher Credentialing compared the classroom effectiveness of 82 California alternative route teachers (77 of them LAUSD interns) in relation to that of 32 university teacher education graduates and 34 emergency credential teachers (California Commission on Teacher Credentialing, 1987a). The beginning teachers were evaluated by trained observers on an average of three occasions on six criteria—classroom environment, student involvement, presentation skills, content and method, classroom management, and cognitive activity. There were no significant differences between the groups on any of the criteria. The researchers concluded that the alternative route teachers, as a group, were as instructionally effective as their university-educated counterparts. This research, however, focuses primarily on the generic characteristics of classroom management and instruction in which the LAUSD interns have been extensively trained. It did not look at the more substantive issues of teaching subject matter to diverse learners.

Between 1987 and 1990, researchers at the National Center for Research on Teacher Education studied the development of pedagogical knowledge and skills in LAUSD alternative route interns and three groups of university-trained secondary math and English teacher candidates (Ball & McDiarmid, 1988; NCRTE, 1988). The study tracked the novice teachers through their teacher education program and into their 1st year of independent teaching and involved repeated interviews with and classroom observations of each candidate. It focused specifically on teaching mathematics and writing to diverse learners.

Ball and Wilson (1990) analyzed the data on secondary mathematics teachers. They found little difference in mathematical knowledge and skill between the alternative route and university trained groups, either at the beginning or end of the program. Both groups of teachers could competently solve mathematical problems themselves—they knew the correct rules and procedures—but had difficulty explaining the underlying mathematical meaning of the concepts. The majority of teachers in both groups believed that effective teaching involved showing and telling students how to solve mathematical problems and giving them practice. They had difficulty in generating concrete examples or activities which would enable students to construct mathematical understanding. These ideas about effective teaching were manifested in their teaching practices (Stoddart, 1991). The majority of novice teachers in both groups used traditional didactic instructional methods in their classrooms—teacher lecture and demonstration of problem solutions on the blackboard followed by individual student work on problems from the textbook with feedback from the teacher. Ball and Wilson (1990) argue that neither group of teachers is being prepared to teach mathematics in a way that will adequately develop students' conceptual understanding. Both the traditional and alternative route approaches to teacher education produce teachers who focus on drilling algorithms into students.

Gomez and Stoddart (1991) compared the development of skills for teaching writing in secondary English teacher candidates in the LAUSD alternative route program and a group of secondary English teachers who graduated from a post-baccalaureate university program. Both groups of teachers came to teacher education with extensive subject matter preparation—all the candidates had completed baccalaureate degrees with an English major, with a GPA of 3.0 or more—and there were no significant differences in their content knowledge. The researchers did find differences, however, in candidates pedagogical knowledge and instructional practices.

The university-educated English teachers were significantly more knowledgeable about specific approaches to teaching writing. They had gone through a teacher education program which emphasized the "process approach" to teaching writing which views students as "authors" who own the text they are producing and who learn to improve their writing through the processes of drafting, revising, and publishing. All these teachers were extremely knowledgeable about this approach and as part of their program had developed an extensive curriculum resource file to draw on in their teaching practice. When these university-educated novice teachers began teaching in schools with high percentages of low-income and minority students, however, most of them had difficulty in implementing the process approach to writing in their multicultural classrooms. They quickly adopted the school district's competency-based drill and practice approach to teaching writing. Gomez and Stoddart (1991) argue that these novices did not use the student-centered curriculum because it was incompatible with their views of the students they were teaching. Many of these teachers held "cultural deficit" perspectives on student achievement and believed that their poor and minority students' lack of enriching life experiences made it difficult for them (a) to function as autonomous learners, or (b) to understand higher-order concepts. They believed that such students required a structured, drill and practice approach, and thus they taught that way. This view of learners was more consonant with the school district's curriculum than the university's process approach.

In contrast, the alternative route interns held higher expectations for low-income and minority students and attempted to develop curriculum and instructional responsive to the needs of diverse learners. Their approaches to instruction, however, were highly idiosyncratic and tended to be based on their own experiences as learners and prior life and work experience (Gomez & Stoddart, 1991). For example, one intern named Chad, a lay preacher and political activist, developed an approach to English instruction which focused almost exclusively on developing the ability to communicate orally. At times this worked very effectively; for example, he engaged low-achieving seventh and eighth graders in researching, writing, and debating arguments for and against year-round schooling. At other times, however, his approach was ineffective. For example, he tried to get a group of poor readers to sight read plays aloud and he taught basic vocabulary to an 11th grade honors class. The majority of interns, like Chad, had difficulty in evaluating the appropriateness of their teaching practice, and although highly creative, their approaches were often unresponsive to the needs of learners.

This preliminary research contrasting the development of instructional expertise in traditional and alternative routes into teaching only serves to emphasize the complexity of learning to teach and reinforces the findings of other research on novice teachers. As has been found in studies of the teaching of mathematics, both the alternative route and university-educated mathematics teachers appeared to be dominated by a powerful subject culture that emphasizes a lockstep drill and practice approach to instruction (Goodson, 1987; Porter, 1989; Stoddart, 1991; Stodolsky, 1988). They looked very different from the university-educated and alternative route English teachers. Here the NCRTE studies support Grossman's (1989) finding that university-educated English teachers develop greater pedagogical sophistication than alternative route teachers. Unfortunately, as has been previously observed, the university-educated novice teachers were quickly socialized into the prevailing school culture (Zeichner & Gore, 1989). The influence of personal perspective (Zeichner, Tabachnick, & Densmore, 1987) was also apparent in the practice of both groups of secondary English teachers: The LAUSD interns developed highly idiosyncratic approaches to instruction and the university-educated teachers views of diverse learners exerted a powerful influence on their developing practice. These findings indicate that many of the same factors operate in learning to teach in traditional and alernative routes to teacher certification. They underscore the research that has demonstrated that novice teachers are influenced by multiple factors, including personal history, subject matter specialization, the backgrounds of the learners they are teaching, and the school context, as well as professional education (Ball & Goodson, 1985; Bullough, 1989; Crow, 1987; Hargreaves, 1989; Gomez & Stoddart, 1991; Shulman, 1986; Zeichner & Gore, 1989; Zeichner et al., 1987).

Discussion

This article uses a case study of the Los Angeles Unified School District Intern Program to examine the use of an alternative route to teacher licensure as a context-specific teacher recruitment and training policy. The findings indicate that the program is effective in attracting and retaining academically competent individuals to teach in inner city schools in Los Angeles. It has a strong record, in comparison to national figures for college-based teacher education programs, in recruiting individuals in subject shortage areas, from minority groups, and individuals with positive dispositions towards teaching in urban schools (AACTE, 1989; NCES, 1990a)

The alternative route program in California is not a replacement for college-based teacher education; it is a context-specific recruitment policy. Alternative route candidates represent less than 2% of California's newly-credentialed teachers: 96% of these are trained in the LAUSD Intern Program (California Commission on Teacher Credentialing, 1987a). The program has reduced the district's need to hire emergency credential instructors without impacting on the recruitment of conventionally educated and licensed teachers.

Alternative route programs like the LAUSD intern program can be successful in recruiting teachers to work in hard-to-staff schools, but do they provide adequate teacher education? Critics have argued that teacher candidates in alternative route programs receive little or no pedagogical preparation (Gideonse, 1984; Watts, 1986). The LAUSD Intern program does provide a program of professional preparation that is, on the surface, similar in the topics addressed and class hours to many college-based teacher education programs. It is, however, very different in its academic rigor and content. In most college-based programs, recommendation for a teaching credential is based on successful completion of university coursework—based on academic criteria of written essays and examinations—and a positive evaluation from a university supervisor based on approximately 10 to 16 weeks of supervised student teaching (Feiman-Nemser, 1990). In LAUSD the main criteria for being recommended for a teaching credential is a positive evaluation from the school principal based on 2 years of full-time teaching experience in an urban school. Although the program provides courses, these courses require little academic work.

The content of the courses also differs. University programs expose students to a wide variety of educational theories and curriculum and instructional approaches (Howey & Zimpher, 1989) and faculty engage candidates in a process of reflection and critical evaluation of prevailing school practice (Feiman-Nemser, 1990). The LAUSD Intern Program focuses on training interns to effectively implement the district's curriculum in a prescribed manner. The content of the coursework emphasizes the local and specific needs of an urban multicultural school district and student population instead of focusing on a wide variety of contexts.

What kind of teachers does the program produce? Preliminary research indicates that the LAUSD interns do not develop flexible or reflective approaches to instruction. Although the mathematics teachers are characterized by their remarkably homogenous didactic approaches to instruction and the English teachers by their diversity of instructional approaches, both groups are essentially "singers with only one song" (Stoddart, 1991). They develop modal approaches to instruction which they apply and misapply routinely.

Do the alternative route teachers differ significantly from their college-educated counterparts? The preliminary research from NCRTE which compares secondary LAUSD interns with a sample of university-educated novice teachers reveals some interesting similarities and differences between and within the groups. A primary differentiating factor was subject matter discipline irrespective of program. There were few differences between the university-trained and alternative route mathematics teachers: Both groups viewed mathematics as a body of facts and procedures to be memorized, and used didactic show and tell approaches to instruction. But the mathematics teachers, across groups, looked very different from the English teachers, who showed a greater diversity in their approaches to instruction. The effects of teacher education were apparent in the university-educated English teachers, who showed a pedagogical sophistication not demonstrated by the LAUSD interns. They had difficulty, however, in applying their university-learned pedagogy with learners who were different from themselves. The alternative route teachers, on the other hand, while feeling comfortable with the diverse learners they taught, developed highly idiosyncratic personalized approaches to instruction which were often inappropriately applied.

These similarities and differences between the secondary alternative route and university-educated teachers emphasize the influence of subject matter, views of learners, and school context, as well as programs, on novice teachers' developing practices. The interactions may be quite different for teachers learning to teach in elementary schools, which traditionally place less emphasis on subject matter and more on "student-centered" approaches. The findings indicate the need for caution in making generalizations about either form of teacher preparation; they demonstrate the importance of comparative research which looks at the influences of type of teacher preparation, level of schooling, teaching assignment, social and geographical context, and individual biography on learning to teach.

Conclusions

These different approaches to teacher education raise questions about the preparation of teachers for urban schools. Should teacher recruitment and training be context specific or can it be context free? The LAUSD Intern Program attracts into teaching academically competent individuals with a strong commitment to working in its multicultural inner city schools—people who want to live and teach in Los Angeles. By focusing on educating "context-specific" teachers to fit in with local policies, practices, and procedures, however, the program may simply serve to socialize candidates into the prevailing school culture and institutionalize inadequate instructional practices. Many college-based teacher education programs, on the other hand, while advocating critical analysis of and experimentation with wide variety of approaches to instruction, appear to operate on the assumption that schools are monocultural and monosocial (Contreras, 1988). They aim to educate "context-free" teachers who can teach any group of student in any school in any part of the country. Such programs, however, have consistently failed to address the needs of urban schools. They do not recruit sufficient numbers of individuals who are committed to teach in urban schools (AACTE, 1989; Haberman, 1990) and most do not emphasize multicultural education in their curriculum (Grant & Secada, 1989).

The findings of this article underscore the need for teacher educators and policymakers to consider issues of context when developing teacher recruitment policies and training programs. The demand for teachers willing to teach in multicultural student populations in inner city schools will increase as the ethnic minority population grows and the urban areas continue to expand (Grant & Secada, 1990). Traditional programs, unless radically restructured, are unlikely to recruit sufficient teachers to meet this need. Developing alternative route programs which primarily serve to socialize teacher candidates into prevailing school practice, while providing teachers, will not help improve instruction for at-risk students. Universities need to work with school districts to develop programs which recruit teachers willing to teach in multicultural inner-city schools and provide them with state-of-the-art professional preparation.

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Teaching and Knowledge: Policy Issues Posed by Alternate Certification for Teachers

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Over the past several years, alternate routes to teacher certification have been enacted, though not always implemented, in most states across the country. Upon his election, President Bush's only education proposal was the encouragement of this kind of state-level strategy for more flexible teacher recruitment. He retains a similar proposal in his more recently proposed "America 2000" portfolio of education reforms. Given this continuing policy interest and several years of experience in some states, it seems an appropriate time to review the status of this policy idea in light of knowledge about teaching and teacher effectiveness, and to assess the outcomes of alternative certification programs for teacher supply and quality.

Generally, in matters of social policy, one wants to understand the nature of the social problem being addressed and then to examine the appropriateness of the proposed solution, preferably in comparison with other alternative solutions. This has been difficult in the field of alternative certification because the debate has been a product of competing but often unspoken political agendas, and it has often been characterized, on both sides, by undefended assertions and counter-assertions grounded in mythology and half-truth.

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This article seeks to get underneath the surface of that debate, assessing the design and potential outcomes of alternate route programs with reference to their perspectives and assumptions about teaching knowledge, teacher preparation, and their relationship to student learning. Hopefully, the result will be increased clarity in evaluating teacher education and certification strategies, and an improved capacity in the public policy system for pursuing improvements in their substance, as well as their form.

What is Alternative Certification?

It is becoming increasingly clear that alternate routes to teacher certification as they now exist in over 30 states are as different from one another as they are from any given state's "traditional" or "regular" certification route. Some initiatives consist primarily of new recruitment strategies for full teacher certification, while others really create an "alternative certificate" which diverges substantially from the regular certification process in terms of both the standards and methods for teacher preparation and entry.

Variations Among Alternate Routes

"Alternate routes" operate under widely divergent standards. For example, the amount of professional education beyond a liberal arts degree required of alternate route candidates can vary from only 9 hours in Virginia to the 45 credit hours required for a full master's degree or its equivalent in Alabama or Maryland (Cornett, in press; Feistritzer, 1990).

Even among programs that require alternate route candidates to complete all regular certification requirements, there is a stark difference between the rigorous 12-month preparation program required *prior to* entry in Maryland (Maryland State Department of Education, 1990) and the Tennessee requirement that apparently allows candidates to enter without professional preparation while earning credits toward certification at the leisurely rate of 6 hours every 5 years (Cornett, in press). At that rate, a teacher could spend 25 years in the classroom before meeting the certification requirements still on the books in most states, and might take nearly 40 years to acquire as much training as the alternate route candidate in Maryland receives in one. (One can only hope that important insights needed for effective teaching are offered in some of the earliest coursework selected by Tennessee candidates!)

Variation Among States' Certification Standards

Of course, regular certification standards also vary across states. Herein lies part of the unspoken debate. Some states, regardless of the terminology in current vogue, have traditionally invested a great deal more in teacher preparation than others. For example, a number of states, such as New York, Connecticut, and Arizona, require at least a master's degree on top of a strong subject matter degree for full professional certification; these requirements generally incorporate 40 credits of professional education coursework and a lengthy supervised practicum or internship in addition to subject matter preparation. On the other hand, some states like New Jersey, Virginia, and Texas have reduced professional education coursework to no more than 18 credits at the undergraduate level, without requiring a master's degree or intensive internship experience to compensate for the reductions in professional preparation.

Thus, alternate route candidates in "high standards" states such as Maryland or Connecticut, for example, are subjected to higher selection standards and receive a substantially more rigorous professional preparation than either "regular" or "alternative" certification candidates in "low standards" states such as New Jersey or Texas.

The Connecticut and Maryland alternate route candidates must have *at least* a 3.0 undergraduate GPA.[1] In both states, candidates must pass all of the same subject area, basic skills, and pedagogical tests as regular candidates, have a bachelor's degree with a major in the field they wish to teach, and complete at least 45 hours of graduate level coursework in education before receiving a professional certificate.[2]

By contrast, in New Jersey, where there is no GPA requirement, the *average* GPA for alternate route candidates is just under 3.0 (Natriello, Zumwalt, Hansen, & Frisch, 1990). This means that some sizable proportion of the candidates score *below* this level.[3] Texas requires only a 2.5 GPA for its alternate route program. According to Cornett, this is either equal to or higher than the requirements applied to traditional route candidates in Texas.

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[1] According to Bliss (in press), the average GPA for both alternate and traditional candidates in Connecticut falls closer to 3.25.

[2] In Maryland, the professional education coursework is all completed prior to beginning teaching. In Connecticut, candidates complete 8 weeks of intensive training prior to entry (the equivalent of at least 6 credits), plus 15 hours of inservice training and intensive mentoring over the next year and a half, and they must complete 30 more credits beyond the bachelor's degree before they receive a professional certificate.

[3] Traditional route candidates in New Jersey have higher GPAs due to college of education admissions standards (Natriello et al., 1990).

New Jersey's alternate route candidates take about 200 "contact hours"[4] of instruction (the equivalent of either 6 or 12 credit hours in most universities, depending on whether one adds the normal load of outside readings and assignments to the "seat time" calculations that are the basis for contact hours). Traditional route candidates in New Jersey take little more than that since the state revamped its regulations and reduced professional education coursework for *all* prospective teachers at the time it was also introducing the alternate route. State officials indicate that the two routes are considered to be equivalent in terms of the number of "contact hours" required.

In Texas, there are no specific coursework requirements specified for alternate route candidates, but traditional candidates cannot exceed 18 hours of professional education coursework. Furthermore, the Texas law specified that alternate route candidates need *not* pass a test of pedagogical knowledge (Cornett, in press). Perhaps this is because it might seem unfair to test candidates for knowledge they have had no opportunity to acquire, or perhaps it bespeaks a view that pedagogical knowledge is not necessary for all teachers.

Two major conclusions derive from this kind of comparison. First, state standards for teacher preparation vary widely both within and across certification categories. Some states require less teacher preparation than others, regardless of the certification category being compared. And while some states' alternate routes are much less demanding than their traditional routes to certification, other states have created routes that maintain "equivalent" standards. However, equivalence can mean very different things across the states. In states like New Jersey and Texas, reductions in professional education requirements for *all* candidates created greater equivalence between alternative and traditional routes, while reducing the demands of both.

In contrast, states like Maryland and Connecticut had strengthened traditional teacher education requirements, and then created alternate routes which met the same demands. In these states and others (e.g., Alabama, Louisiana), the major change provided by alternate routes is that they offer teacher education in a graduate level master's degree program rather than in an undergraduate program.

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[4] In New Jersey, as in Los Angeles and a few other places, coursetaking requirements for alternate route candidates are specified in terms of "contact hours"—the amount of time candidates spend in class with an instructor—rather than college credit hours, which would require the additional work imposed by out-of-class assignments, papers, examinations, and the like. Typically, this extension of classwork in a university course would amount to at least as many hours as the actual "contact hours" spent in class.

Second, just as alternate routes to certification differ dramatically across the states, so do traditional routes. These differences have been growing throughout the 1980s, as states have taken sharply different approaches to teacher policy changes and overall school reform (Darling-Hammond & Berry, 1988). In fact, the differences are now so substantial that state licensure systems cannot be said to share a common viewpoint as to what teachers ought to know and be able to do, or even as to what "good teaching" is (Darling-Hammond, 1992).

As a consequence, reciprocity for licensure between the states has steadily eroded. Ironically, the resulting barriers to teacher mobility exacerbate supply and demand imbalances and help fuel the demand for emergency and alternative licensure arrangements. Another irony is that the growing dissensus in state governmental views about teaching has occurred at a time when the profession is making strides toward consensus, as the National Board for Professional Teaching Standards (NBPTS), the Holmes Group, and the National Council for Accreditation of Teacher Education strive to define high and rigorous standards for teachers which will be implemented via professional certification and accreditation procedures. These standards will undoubtedly conflict with those of some states whose licensure systems have meanwhile taken a very different tack.

Variations in Who is Certifying What

Zumwalt's (1990) summary of the differences among the Connecticut, California, and New Jersey approaches points out the differences in their admissions standards and in the extent of preparation required (both more rigorous in Connecticut). She notes that not only do the methods and amount of preparation vary across the programs, but the nature of teaching knowledge required varies as well. For example, of the three, only Connecticut has incorporated subject matter pedagogy—an area which is strongly represented in recent research and in the standards being developed by such bodies as the NBPTS—into its curriculum. And while Connecticut incorporates educational theory and research into its training program, Los Angeles' courses "do not, typically, discuss theory or research . . . " (Stoddart, in press). Zumwalt's analysis points out another critical difference: The approaches taken in both New Jersey and California have placed the onus for state certification decisions in the hands of local employers (by recommendation of the local school principal), rather than in the hands of a state body presumably representing some broader standard of professional practice. This practice stands not only in contrast to Connecticut's, where state evaluators must recommend certification, it stands in contrast to practices in almost all other states in the nation and to those in every other profession which has any form of state licensure or certification.

In fact, a major component of the fundamental rationale for professional certification in any field is that it provides a safeguard to the public that employers' standards cannot provide. This is because employers' practices may be guided primarily by concerns for profit-making or cost containment rather than by professional standards of practice which are supposed to represent knowledge about "best" (not necessarily "cheapest" or "most expedient") practice based on a primary concern for client welfare (see e.g., Abbott, 1983; Boreham, 1983; Flores & Johnson, 1983; Friedson, 1973; Rothstein, 1969). Consequently, hospitals are not allowed to certify the competence of their doctors. Law firms and accounting firms may not license their own lawyers or accountants, and neither private contractors nor public works departments may certify the bridge-building knowledge of the civil engineers they employ.

Another rationale for making licensure decisions independent from employers' judgments is that state licensure allows those who receive it to practice anywhere in the state, not just in one firm or organization whose standards and practices might diverge from those of others (see e.g. Wise & Darling-Hammond, 1987). Los Angeles' program, which trains approximately 96% of all California alternate route candidates (Stoddart, in press), illustrates this problem. The program does not attempt to prepare its candidates for the wide variety of teaching jobs that might exist across the state. It explicitly emphasized LAUSD procedures and teaching models—including some methods that are not enthusiastically embraced in all other California districts. Though a state evaluation found this problematic (Wright, McKibbon, & Walton, 1987), according to Stoddart, the LAUSD program director sees this as a strength: "That's what I think is real different, that we're district specific. . . . One of the side benefits (for the interns) is that they have an initial learning: one way—the way things are done in the district." However, among the 53% of alternate route candidates who quit teaching in Los Angeles between 1984 and 1990, there are undoubtedly some who went to teach in other districts. What kind of guarantee is the state able to make to those communities about the extent and suitability of their knowledge base for meeting standards and practices that exist outside of Los Angeles?[5]

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[5] This concern was also raised by the California Commission on Teacher Credentialing in its report to the California legislature on the alternate route program in that state (Wright, McKibbon, & Walton, 1987).

The states' licensure systems and the professions' certification systems all exist because they are supposed to apply a more comprehensive set of standards than local employers can. In this sense, one could argue that alternative routes in New Jersey and California (and any other states that have placed certification recommendations in the hands of local school districts) are not routes to state certification at all. They are alternatives to the entire concept of state certification.

In sum, the concept of "alternatives" to traditional state certification leaves a great deal of room for varied meaning. It can mean alternative *ways to meet* teacher certification requirements—such as a graduate level master's degree program rather than an undergraduate teacher education program. It can mean alternative *standards* for certification, which allow for truncated or reduced training—or for training completed during the course of a teaching career rather than prior to its initiation. Or it can mean alternatives *to state certification itself,* as when a state allows local employers to train and certify their own candidates.

In the first of these cases, the programs might logically be viewed as maintaining, or even raising, standards for entry into teaching; in the second case, as lowering them; and in the third case, as removing state standards entirely. Given this lack of a common meaning for alternative certification, we might expect that the underlying rationales are also diverse.

Knowledge and Teaching

As we discuss later, there are many different motivations for the creation of these widely divergent alternate routes to teacher certification. The various rationales intersect with differing beliefs about what it is that teachers need to know in order to be effective. For those routes which incorporate only brief preliminary training, the basic assumption is that subject matter preparation is the most crucial foundation for good teaching; with modest initial guidance, it is felt that teachers will learn pedagogical skills on the job. Most of the fast-track routes at least postulate supervision for their beginning teachers, thus implicitly acknowledging the desirability of professional guidance for this clinical learning. However, as described below, this supervision does not always materialize for alternate route trainees.

Lengthier programs, such as the master's degree alternatives mentioned earlier, typically include a fairly substantial amount of study in educational foundations (child development, learning theory, etc.) and teaching methods, alongside an intensively supervised internship or student teaching experience. These programs assume that teachers need to know a great deal about learners and learning as well as subject specific pedagogy in order to be able to teach effectively. They share with both traditional programs and fast-track routes a belief that clinical learning opportunities are important for prospective teachers. Like traditional programs, they incorporate supervised clinical training into their preservice programs rather than assuming that such opportunities will materialize after the teacher has begun full-time teaching.

These differing assumptions suggest that, ultimately, the design of teacher certification programs should rest on answers to two related questions: What kinds of knowledge and training play important roles in the development of teachers' skills and abilities? and How are these best acquired? Although definitive answers to the second of these questions is not yet available, research on teaching and teacher effectiveness provides many clues about how subject matter preparation, pedagogical preparation, and opportunities for supervised practice influence teacher abilities.

Teacher Education and Teacher Effectiveness

Although some initiatives seem to presume that teacher education programs have little influence on teachers' abilities, the weight of research indicates that fully prepared teachers are in fact more successful with students than are teachers without full preparation and certification.

A number of reviews of research have summarized the results of recent studies, along with studies conducted during the shortage era of the 1960s and early 1970s when many teachers entered through temporary and alternate routes. All of them conclude that fully prepared and certified teachers are generally more highly rated and more successful with students than teachers without full preparation (Ashton & Crocker, 1986, 1987; Evertson, Hawley, & Zlotnik, 1985; Greenberg, 1983; see also Haberman, 1984; Olsen, 1985). As Evertson and colleagues conclude in their research review:

> The available research suggests that among students who become teachers, those enrolled in formal preservice preparation programs are more likely to be effective than those who do not have such training. Moreover, almost all well planned and executed efforts within teacher preparation programs to teach students specific knowledge or skills seem to succeed, at least in the short run. (1985, p. 8).

The importance of full preparation also shows up strongly in a number of specific fields that have been studied. For example, a review of research on science education, incorporating the results of more than 65 studies, found consistently positive relationships between student achievement in science and the teacher's background in both education courses and science courses (Druva & Anderson, 1983; see also Davis, 1964; Taylor, 1957). These effects are particularly noticeable when achievement is measured on higher-order tasks such as students' abilities to apply and interpret scientific concepts (Perkes, 1967-1968).

The same influence of training on teacher performance has been found for teachers of gifted students, again particularly with respect to the development of students' higher-order thinking skills (Hansen, 1988). A review of research on early childhood programs found that the single most important feature distinguishing programs with long-term positive effects on student performance from others was the extent of preparation the programs' teachers had received (Ruopp, Travers, Glantz, & Coelen, 1979).

Erekson and Barr's (1985) review of research on vocational education teachers with and without professional preparation also finds that teachers with substandard certification are less effective overall than prepared teachers.

Other studies illuminate these findings by pointing out the differences in the perceptions and practices of teachers with differing amounts and kinds of preparation. A number of studies suggest that the typical problems of beginning teachers are lessened for those who have had adequate preparation prior to entry (Adams, Hutchinson, & Martray, 1980; Glassberg, 1980; Taylor & Dale, 1971).

Studies of teachers admitted through quick-entry alternate routes frequently note that the candidates have difficulty with curriculum development, pedagogical content knowledge, attending to students' differing learning styles and levels, classroom management, and student motivation (Feiman-Nemser & Parker, 1990; Grossman, 1989; Lenk, 1989; Mitchell, 1987). Novice teachers without full training show more ignorance about student needs and differences and about the basics of teaching than do trained beginners (Rottenberg & Berliner, 1990).

A number of studies have found that in comparison to beginners who have completed a teacher education program, teachers who enter without full preparation are less sensitive to students, less able to plan and redirect instruction to meet students' needs (and less aware of the need to do so), and less skilled in implementing instruction (Bents & Bents, 1990; Bledsoe, Cox, & Burnham, 1967; Copley, 1974; Grossman, 1988; Rottenberg & Berliner, 1990). They are less able to anticipate students' knowledge and potential difficulties and less likely to see it as their job to do so, often blaming the students if their teaching is not successful. As Grossman (1989) puts it:

> Without formal systems for induction into teaching, learning to teach is left largely to chance. Although much pedagogical knowledge has

> been characterized as common sense, knowledge is not hanging, ripe and fully formed, in the classroom, waiting to be plucked by inexperienced teachers. (p. 205)

These findings are reflected in Gomez and Grobe's (1990) study of the performance of alternate route candidates in Dallas. Though these candidates were rated about as well on average as traditional education candidates on several aspects of teaching, they were rated lower on such factors as their knowledge of instructional techniques and instructional models. The performance of alternate route candidates was also much more uneven than that of trained teachers, with a much greater proportion of them—from 2 to 16 times as many—likely to be rated "poor" on each of the teaching factors evaluated.[6] The effects of this unevenness showed up most strongly on student's achievement in language arts, where the achievement gains of students of alternate route teachers were significantly lower than students of traditionally trained teachers.

Perhaps it is not surprising that alternate route teachers from short-term programs often experience less job satisfaction than fully certified beginning teachers (Lutz & Hutton, 1989; Sciacca, 1987), or that they report less satisfaction with their preparation and less commitment to remaining in teaching than other recruits (Darling-Hammond, Hudson, & Kirby, 1989; see also, regarding attrition, Lutz & Hutton, 1989; Roth, 1986). Problems resulting from inadequate preparation headed the list of complaints of the 20% of Los Angeles alternate route candidates who quit before they completed their programs in 1984 and 1985, as well as many of those who remained but voiced dissatisfaction (Wright et al., 1987).

Interestingly, a state evaluation of the Los Angeles program compared several different kinds of teaching recruits, including one group of alternate route entrants who decided to enroll in regular university teacher education programs rather than the short alternate route summer program, while still receiving state-funded mentor support. This group far outscored any of the other recruits on every criterion of classroom effectiveness, suggesting the cumulative power of adding adequate preservice preparation to intensive on-the-job supervision (Wright et al., 1987, 124).

The Influence of Subject Matter Courses

There is some support for the argument that subject matter knowledge makes a difference in teaching, at least up to a certain point.

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[6] The proportions of alternate route candidates rated "poor" ranged from 8% on reading instruction to 17% on classroom management.

Byrne's (1983) summary of 30 studies found 17 showing a positive, though not always significant, relationship between teacher's subject knowledge and student achievement. Of the studies they reviewed, Ashton and Crocker (1987) found only 5 out of 14 suggesting a positive relationship between these two variables. Other reviews have found inconsistent (sometimes even inverse) relationships between subject matter knowledge as measured by the National Teacher Examinations and teacher performance (Andrews, Blackmon, & Mackey, 1980; Ayers & Qualls, 1979; Quirk, Witten, & Weinberg, 1973).

It is likely that these results are mixed because subject matter knowledge is a positive influence up to some level of basic competence and familiarity with the subject, but is less important thereafter. For example, there is evidence that out-of-field assignment of teachers has negative effects on student achievement in mathematics (Hawk, Coble, & Swanson, 1985). Where teachers with backgrounds in mathematics were compared to teachers with backgrounds in other subjects who had been assigned to teach mathematics, the lack of subject matter competence was an important factor in reducing teacher effectiveness.

However, beyond some point, more subject matter courses do not seem to make a difference. As Begle and Geeslin (1972) found, also in mathematics, the absolute number of course credits in the subject area is not linearly related to teaching quality. As McDiarmid, Ball, and Anderson's (1989) review notes, "While obviously essential, a flexible understanding of subject matter is not enough for beginning teachers. They also need to know about learners, . . . and the learning process" (p. 17). Furthermore, McDiarmid's (1989) review of what college students learn in their college liberal arts courses suggests that, given the pedagogical shortcomings of most postsecondary teaching, one thing students do not acquire in these subject matter courses are useful models for later application in their own teaching.

The Influence of Education Courses

The influence of education coursework on teachers' effectiveness shows up more strongly and consistently. Ashton and Crocker's (1987) review found a majority of studies showing positive relationships between education coursework and teacher performance, whereas just over a third of the studies they examined showed a relationship between subject matter knowledge and teaching performance. Guyton and Farokhi (1987) found consistent positive relationships between teacher education coursework performance and teacher performance in the classroom, while relationships between classroom performance and subject matter knowledge were less strong and consistent. Denton and

Lacina (1984) found a positive relationship between the amount of professional coursework taken by teachers and their teaching performance, including their students' achievement.

These findings are supported in a number of different teaching fields. For example, at the elementary level, teachers' background in reading methods courses is positively related to students' reading achievement (Hice, 1970). Teachers' general elementary education training is related to student achievement and interest on a wide range of tasks (McNeil, 1974), as well as to ratings of instructional effectiveness (LuPone, 1961). Specific kinds of teacher education have also been found to produce positive effects on the later performance of trained teachers and their students (for reviews, see e.g., Butcher, 1981; Evertson et al., 1985; Gage & Winne, 1975; Good, 1983).

In a review of findings of the National Longitudinal Study of Mathematical Abilities, Begle (1979) found that the strongest indicator of preparation as a correlate of student performance was the number of credits a teacher had taken in mathematics methods courses. Druva and Anderson's (1983) related findings in science were cited above. These findings are not surprising in light of recent research suggesting the importance of subject-specific pedagogy to teacher effectiveness (Shulman, 1986; Wilson, Shulman, & Richert, 1987; see also Kennedy, 1990).

Also, not surprisingly, two recent studies of midcareer and other nontraditional recruits to teaching found that their strongest recommendation was for a heavier dose of subject-specific teaching methods, including pedagogical guidance combined with more information about child and adolescent motivation, development, and cognition (Coley & Thorpe, 1985; Darling-Hammond et al., 1989).

Given current school reforms aimed at more adaptive teaching focused more on critical thinking skills, it is important to understand how teacher preparation appears to have these positive influences on teachers' sensitivity to diverse student needs and their ability to teach in a style conducive to higher order learning. These influences, noted above, may be partly due to the fact that as prospective teachers progress through their professional education courses, they become increasingly student-centered in their attitudes and more aware of methods that support students' development and their independent and critical thinking (Skipper & Quantz, 1987).

Furthermore, it seems that appropriate preparation in planning and classroom management is one of the factors that allows teachers to focus on the kind of complex teaching that is needed to develop higher order skills. Since the novel tasks required for complex problem-solving are more difficult to manage than the routine tasks associated with learning simple skills, lack of management ability can lead teachers to reduce curriculum demands in order to more easily control student work (Carter & Doyle, 1987; Doyle, 1986).

Thus, the interactions between teacher preparation and what their students later experience and learn are many and complex. Based on a review of 83 studies from 9 countries, Veenman (1984) concluded that, given the common experiences of beginning teachers, programs that emphasize subject matter training at the expense of professional education courses are not warranted.

The Influence of Guided Clinical Experience

A third component of teacher preparation is "clinical" learning: the application of knowledge about teaching in the complex real world of classrooms. Teachers traditionally cite their supervised student teaching experience as a key element of their preparation. Though many applied skills must ultimately be learned in practice, it is clear that unsupervised on-the-job experience is, in and of itself, insufficient to support teacher learning and teacher effectiveness, as it can lead as frequently to the adoption of regressive and ineffective methods as to the acquisition of appropriate strategies (Darling-Hammond, Gendler, & Wise, 1990; Grossman, 1989; Hawley & Rosenholtz, 1984; McDonald, 1980; NIE, 1979; Ryan, 1980).

The importance of guidance in learning to teach is confirmed by studies showing that induction support for entering teachers improves the quality of their teaching (Huling-Austin & Murphy, 1987). Beginning teachers who receive such support move more quickly from concerns about discipline and basic classroom management to concerns about instruction and student progress (Odell, 1986). Virtually all studies of alternate routes to teacher education note the vital importance of high quality, intensive supervision and related clinical learning opportunities to candidates' success, and the problems that occur when such support is absent (see e.g., Adelman, 1986; Darling-Hammond et al., 1989; Wright et al., 1987).

Summary

In sum, research on teacher knowledge and preparation indicates that teacher education makes a difference in teaching effectiveness. Most research indicates that students taught by fully prepared teachers learn more than students taught by teachers who are not fully prepared. The extent and kind of teacher preparation are especially important in determining the effectiveness of teachers in "school-based" subjects, such as mathematics, science, and early reading, as well as the use of teaching strategies which encourage higher order learning and respond to students' needs and learning styles.

Furthermore, some kinds of preparation appear to make more difference than others. Standard knowledge of subject matter is important up to a point: For example, out-of-field teachers are less effective than teachers who have been prepared to teach a given subject. However, past the level of basic subject area preparation, most studies find that greater preparation in child development, learning theory, curriculum development, and teaching methods has a stronger influence on teacher effectiveness than additional subject matter preparation. In addition, intensive clinical guidance in learning to teach is extremely important to the effectiveness of beginning teachers.

In the light of these findings, policies providing alternate routes to teacher certification may be evaluated in terms of the extent to which they incorporate opportunities to acquire these different elements of teaching knowledge. This kind of evaluation is critical to a determination of whether states are acting responsibly on behalf of students. From a policy perspective, it is also important to examine the political, economic, and institutional rationales for alternative certification, in order to understand how states are seeking to discharge their obligations to voters, taxpayers, and the broader public. Ultimately, the long-range prospects for alternate certification depend on how political as well as educational concerns are satisfied. Both of these dimensions are explored below.

Alternate Route Teachers and Their Preparation

As described above, alternate routes are widely divergent in the amount and kind of education they provide their recruits. Some programs provide full preparation for standard certification but do so in a "nontraditional" manner—that is, at the graduate school level, with flexible scheduling, and/or with coursework targeted at special recruitment pools. Others provide more limited preparation than standard certification requires, modifying or eliminating certain coursework or student teaching requirements.

For purposes of clarity, we will refer to the first type of program as an *alternate route* (AR) (since it changes the route to certification but not the certification standards themselves) and the second type as *alternative certification* (AC) since it changes the rules by which certification is granted). Among the programs launched in recent years, Connecticut's resembles an alternate route, as do Maryland's, Alabama's, and Louisiana's. The programs in California, New Jersey, Texas, and Florida, on the other hand, more closely fit the definition of alternative certification programs.

Current literature provides very little data concerning the question of adequacy of program preparation. As Cornett (in press) notes: "Very few comprehensive evaluations [of AC programs] are underway. . . . " She also notes some of the difficulties associated with drawing adequate comparisons among groups of differently prepared teachers to support such evaluations. Though studies sometimes note similarities and differences between the design of AC programs and traditional teacher education, they generally do not describe how these differences affect recruits' capacities or experiences in the classroom (see e.g., Natriello et al., 1990; Stoddart, in press; Zumwalt, 1990).

Bliss (in press) notes that most Connecticut recruits reported their initial training to be helpful, and reports results of a 1989 survey of recruits' supervisors (Love, Cooley, & Trudeau, 1989) which suggests mixed reviews—33% of supervisors said that AR teachers were weaker than others in classroom management (presumably, then, 67% said they were *not* weaker than others in this area), while 38% said they were stronger than others in teaching skills (and 62% presumably said they were *not* stronger than others in this area; no mention is made of what proportion was deemed weaker).

These data, along with similarly mixed results from perceptual studies of other alternative programs (Adelman, 1986; Gomez & Grobe, 1990; Lutz & Hutton, 1989; Mitchell, 1987; Wale & Irons, 1990; Wright et al., 1987) suggest that assessments of program preparation often depend on whether one wants to see the glass as half empty or half full.

More information is available on the nature of the preparation that recruits receive, given the design and implementation of programs. As several studies have noted, recruits in alternate route (AR) programs (often master's degree programs focused on training midcareer recruits) receive a different kind of training than those in alternative certification (AC) programs (see e.g., Adelman, 1986; Darling-Hammond et al., 1989; Zumwalt, 1990). Because they are shorter term, alternative certification programs provide less pedagogical coursework than other programs, and also tend not to provide any subject matter coursework or extended practicum experience—these recruits' "practicum" consists of their first year(s) of full-time teaching.

Some of the differences in content between alternate route and alternative certification programs have been mentioned already—for example, a focus in the AC programs on generic skills rather than subject-specific pedagogy; on singular specific teaching techniques rather than a range of methods; and on specific, immediate advice rather than research or theory (see Bliss, in press; Stoddart, in press; Zumwalt, 1990). These may be a necessary consequence of the short period of time available. As one program coordinator in New Jersey's Provisional Teacher program explains, "The condensed time frame of 200 hours of formal instruction places serious limitations on the amount of curriculum content that can be covered" (Brown, 1990).

Some studies have pointed to a variety of other factors that can reduce the availability and/or quality of instruction offered to recruits, as suggested in Gray and Lynn's (1988, pp. 12-13) study of New Jersey's program; Cornett's (in press) references to reviews of Florida's program; and RAND's study, which concluded (after surveying nearly 500 recruits from a range of program types) that these differences influence recruits' teaching experiences:

> In our sample, recruits in midcareer programs—the smaller, more selective and costly programs—were the most satisfied with their coursework and practicum experiences, which tend to be fairly intensive and highly supervised. . . . Alternative certification recruits were the least satisfied with the amount and quality of preparation and supervision they received. Recruits' ratings of the value of their preparation reflected the kind of difficulties they experienced when they entered classroom teaching. These differences relate directly to specific features of the preparation experience cited by the recruits. (Darling-Hammond et al., 1989, p. 106)

Another key difference between the short-term AC programs and others is the absence of a student teaching experience, presumably to be replaced by intensive supervision in the initial months of full-time teaching. When this supervision occurs, as is most likely to be the case in states like California and Connecticut where mentors are state-funded, recruits perceive the help as a key factor in helping them learn to teach. However, a number of studies have found that promised mentors do not always materialize in AC programs.

Gray and Lynn's (1988) concerns about the apparent haphazardness of supervision for provisional teachers in New Jersey were later confirmed by Smith (1990a; 1990b), who found in two separate studies[7] that the vast majority of AC candidates did not receive the combination of supervision, training, and mentoring services required by the program. For example, 99% of AC candidates had no meeting with their support team within the first 4 weeks of teaching, and 67% did not meet with their mentors during this period when their teaching was supposed to be "intensively supervised." Over two-thirds did not receive the daily supervision they were to receive, and nearly one-quarter were not observed by anyone at all during this time. By comparison, 96% of student teachers were supervised daily. Smith concludes that school districts were generally unable to provide these services, given the fiscal resources and staff time available to them (Smith, n.d.).

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[7] The second of these studies included 25% of all New Jersey alternative certification candidates in the Fall of 1989, along with a sample of student teachers.

The RAND study, which included several other alternative certification programs, found they experienced similar problems, while university-based routes were better able to offer a supervised practicum experience:

> Ironically, given that these [alternative certification] programs presumably emphasize on-the-job training *in lieu* of standard coursework, the alternative program recruits in our sample received substantially less assistance and supervision than recruits in any of the other types of programs. (Darling-Hammond et al., 1989, p. 106)

In this study, fewer than a third of AC recruits spent an hour or more each week working with a support person as compared to three-quarters of midcareer recruits in AR graduate school programs. Other studies have also commented on the unevenness of supervision in AC programs, particularly those that rely on local district resources (Adelman, 1986; Cornett, in press).

Even when state resources are available, the promise of serious supervision is not always easy to meet. Despite state funding for mentors, 15% of California's AC trainees reported that they had not met with any support person at all during their 1st year of teaching; fewer than 20% had the advantage of meeting at least once a week with a support person (Wright et al., 1987).

Reviews of the availability and quality of preparation and supervision offered by university-based AR programs, on the other hand, have generally been more consistently positive (see e.g., Coley & Thorpe, 1985; Darling-Hammond et al., 1989; Smith, 1990b; Sundstrom & Berry, 1989). Many studies have found that, over time, alternate certification programs have added coursework requirements as gaps in teachers' preparation have been identified, and states and districts have increasingly turned to universities to provide coursework and supervision (Carey, Mittman, & Darling-Hammond, 1988; Cornett, in press; Hudson, Kirby, Carey, Mittman, & Berry, 1988).

It is important to note that these differences in coursework preparation and supervision have monetary implications. For example, Adelman's (1986) review found program costs ranging from $1286 per recruit in New Jersey's provisional teacher program to $13,000 per recruit at the University of New Mexico's Internship program. The UNM program, like other university-based alternate routes, features a 32 credit hour professional education program and a year-long supervised internship. The RAND study found a similar range of costs, from $1,000 in the shortest-term AC program to over $10,000 in master's degree programs for midcareer recruits at Harvard and George Washington University.

The substantive differences in program content noted above as well as these disparities in level of educational investment bring to mind Gary Fenstermacher's (in press) observations about what outcomes we might want from teacher preparation, particularly at this moment in history:

> In a time when so many advocate for restructured schools, for greater decision autonomy for teachers, and for connecting the schools more intimately with homes and communities, it is more important than ever that teachers have the capacity to appraise their actions, evaluate their work, anticipate and control consequences, incorporate new theory and research into practice, and possess the skills and understanding needed to explain their work to other teachers, and to students and their parents. . . .
>
> These reflective capacities are not innate to human beings, nor are they acquired quickly. They are not acquired during a planning period sandwiched somewhere in between classes, or during evening "minicourses" after a full day's work. They are, rather, the outcome of sustained and rigorous study, and of dialogue and exchange with master teacher educators.

Ultimately we will need to know how well these various approaches to teacher recruitment and preparation help teachers answer questions well beyond "What do I do on Monday?"—questions that require a "capacity to be reflective, to appraise oneself with a degree of dispassionate analysis, to employ new knowledge and understanding in the assessment of one's actions, and to gauge the immediate and ongoing consequences of one's behavior . . . " (Fenstermacher, in press). Hopefully, future studies of both traditional routes and nontraditional programs of various kinds will help us to evaluate their contributions to developing teachers with the kinds of capacities needed for 21st century schools.

Contributions of Alternate Routes to Teacher Supply

One of the strongest arguments for alternate routes to teaching is that they create opportunities for tapping new pools of prospective teachers.

Where alternate routes have been responsible for creating graduate-level teacher preparation programs, for example, they have made career switches into teaching a viable option for candidates who did not choose an education major in college. These include recent college graduates who did not prepare to teach as well as midcareer entrants seeking to change occupations. Although some colleges and universities have long offered graduate programs for teacher preparation, they have heretofore been a small minority of all programs, comprising only about three percent of the institutions preparing teachers in 1983 (Feistritzer, 1984) and accounting for only about six percent of newly prepared teachers in 1983-1984 (Darling-Hammond et al., 1989, p. 3).

The availability of graduate school options for teacher preparation does not depend on "alternate" routes, since many states have had such programs as part of their "regular" routes for some time. However, master's degree programs have been stimulated in a number of states as the major focus of the alternate route effort, particularly where post-baccalaureate programs had not existed in the past (e.g., Bliss, in press; Cornett, in press). Certainly, where this has happened, it is an important step toward opening the profession to more potential teachers at more potential junctures in their occupational lives.

Just as the nature and extent of preparation differ radically among alternate route and alternative certification programs, so, too, we find differences in the kinds of recruits they attract. Darling-Hammond et al. (1989) found that master's degree programs aimed at midcareer entrants attracted the most academically able recruits, and were much more likely to attract high-ranking professionals (including scientists and engineers) than were alternative certification programs. In shorter term AC programs, entrants from other occupations, including those from scientific occupations, were much more likely to come from the lower-paid jobs within each sector, such as technical support and service jobs.

One review of California's AC program suggests that many entrants from other occupations may have been in nonlucrative or tenuous occupational situations, since one-third reported that they entered the AC program because they needed money or because of job availability. This was a much higher proportion of responses than for teacher education graduates, who were much more likely to say they chose teaching because they wanted to work with children (Wright et al., 1987).

All of the available research suggests that the entry standards and academic records of recruits are higher in alternate route programs than alternative certification programs. Cornett's review (in press) describes some of these differences in Southern states' programs; Feistritzer's (1990) nationwide compilation confirms these differences. As noted earlier, candidates in Connecticut's AR program, who must have at least a

3.0 grade point average, have stronger academic records than AC recruits in New Jersey. The same is true for recruits in Los Angeles' trainee program, where 33% of AC English teachers, 29% of science teachers, and 57% of mathematics teachers enter with GPAs below 3.0 (Stoddart, in press).[8]

Interestingly, in line with the Los Angeles data summarized above, several studies have found that the academic records of recruits also vary substantially by teaching field, with AC candidates in high demand shortage fields, such as mathematics and science, often having much poorer academic records than candidates in other fields and candidates from traditional teacher education programs. Due to recent reforms, teacher education programs now typically have raised admissions standards in ways that would eliminate many AC recruits from the pool.

These discrepancies were found in New Jersey's program, where the disparities between the academic records of AC and traditional teacher education candidates are greatest in mathematics, with AC mathematics recruits having weaker academic records than AC English recruits, on the one hand, and their teacher education counterparts in mathematics on the other (Natriello et al., 1990). Similarly, the only groups of AC recruits in Dallas with lower pass rates than the statewide average on Texas's ExCET examination were those in mathematics and physical science (Lutz & Hutton, 1989).

These findings illustrate the power of labor market forces: In fields where competing opportunities are fewer, alternate routes may attract more academically able recruits than they can in fields where competing opportunities are many and more lucrative. These routes may help to fill classrooms in areas of shortage, but they cannot eliminate the causes or consequences of labor market shortage. Like traditional routes, their quest for highly qualified candidates is constrained by the relative attractions of teaching compared to other opportunities available.

As Lutz and Hutton note:

> There seems little hope that [alternative certification] can have a major impact on a major and general teacher shortage, without drastically lowering professional standards. Alternative certification can, however, be of assistance in recruiting *particular* types of teachers. . . . This may be particularly true if either (a) the general econ-

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[8] Although Stoddart speculates that traditional teacher education candidates in California may have even lower grade point averages, a study by the California State University System found that the GPAs of teacher education majors, both cumulatively and in their subject matter majors, were higher on average than those of students in other fields (Fisher & Feldmann, 1985).

> omy is down, so that those trained in the liberal arts are not sought after in the private sector, or (b) special incentives are offered. (1989, p. 252)

The same issues that apply to recruitment also apply to retention. Though many factors are undoubtedly at play, Stoddart's (in press) analysis reveals that 53% of Los Angeles' AC recruits had left within the first 6 years of program operation. California's state evaluation found that 20% of recruits dropped out before completing the training. Of those who completed the training, 20% left during the first 2 years of teaching, and another 20% of the remainder were deemed not ready for employment by the end of year 2 (Wright et al., 1987).

Of 110 Dallas recruits, only 54% had successfully "graduated" to become full-fledged teachers after their 1st year as interns (Lutz & Hutton, 1989).[9] Only 40% of the AC interns said they planned to stay in teaching, as compared to 72% of traditionally trained recruits.

Across a range of nontraditional programs reviewed by RAND, 75% of those recruits who had not previously been teachers remained in teaching after 2 years, while only half planned to make it their career. Among these, AC candidates were least likely to say they planned to stay in teaching; mid-career recruits in AR master's degree programs were most likely to plan to stay in teaching (Darling-Hammond et al., 1989).

The best-case data concerning the retention of AC candidates seem to be for those who were already teachers before program entry and entered programs to receive training so that they could stay in teaching. In New Jersey, where 70% of AC candidates have already been teachers (Klagholz & Schechter, n.d.), attrition rates are relatively low because most candidates had already committed to teaching as an occupation.

A final limitation on the contribution of alternate routes to long-term teacher supply is the availability of programs. One recent study of nontraditional programs for preparing mathematics and science teachers found that during the year in which a survey was being conducted, 8 out of 64 programs had already disappeared, while several others were unsure as to whether they would continue in the following year (Carey et al., 1988). Discontinuation was related to funding, reputation, availability of recruits, and stability of the agency operating the program. Programs that survived had broadened their target recruitment pools, refined their programs, and had become attached to university-based teacher education programs, if they were not already part of such programs. Cornett's account (in press) of the fate of programs in Southern Regional Education Board states notes similar trends.

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[9] Of this group, 24 had the possibility of "graduating" at some point in time if deficiencies in meeting program requirements were cleared up, along with 14 who were requested to continue as interns for another year in hopes that they could improve their performance sufficiently.

Similarly, Lutz and Hutton (1989) point out the dramatic shrinkage over several years in the AC programs operated by the Houston and Dallas Independent School Districts, speculating that the decline may be attributed "to a shrinking pool of qualified applicants or the high financial cost of such programs, which are carried by the local school district" (p. 251). For these and other reasons—including a preference for traditionally trained and certified candidates—most districts in states that have AC programs will not participate in them (Gray & Lynn, 1988; Mitchell, 1987; Wright et al., 1987).

Thus, the programs have not expanded to meet a substantial portion of the unmet demand for teachers. As Feistritzer's (1990) data demonstrate, the number of emergency teaching certificates far outstrips the number of alternative certificates issued in many states and nationwide. Even in those cities which are the largest users of AC programs, the number of emergency hires is still greater, because the districts do not have the resources to offer training and supervision to all of the unprepared candidates they hire.

Only four states—New Jersey, California, Texas, and Virginia—issued a substantial number of alternative certificates in 1989. Between them they accounted for over 3,000 alternate route candidates, as compared to just over 1,000 for the remaining 46 states combined. This compares to roughly 200,000 certificates issued to "traditional" candidates completing approved college or university programs in the same year, and more than 15,000 emergency certificates in the relatively few states that reported such data (Feistritzer, 1990).

From a policy perspective, then, it is worth asking whether alternate routes are accomplishing what their founders have hoped, and whether and how certification policies might accomplish these goals in the future. Below we examine the rationales, hopes, and expectations for alternate route programs and evaluate their prospects.

Rationales for Alternative Certification

Running throughout the literature are a potpourri of reasons for the pursuit of alternatives to traditional teacher certification. Clearly, California and many of the Sunbelt states have been motivated by teacher shortages (Cornett, in press; Lutz & Hutton, 1989; Stoddart, in press), as population growth has spurred large increases in teacher demand without concomitant increases in supply. Connecticut's claim is that it aims to "bring exceptionally qualified individuals with diverse backgrounds into the profession," while some advocates hope to stimulate change in regular teacher education as well (Bliss, in press).

Though one might neatly categorize these rationales into concerns for improving teacher quantity and teacher quality, other subthemes weave in and out of the dialogue. As Fenstermacher (in press) suggests, there are diverse political agendas at play, including those of foundations, corporations, and politicians who want a foot in the school reform door. There are also more pervasive issues than boosting either teacher quality and quantity which are shaping the debate. Fenstermacher identifies the themes of choice and deregulation as important ones. Related to these is the notion that the "monopoly" on entry exercised by teacher education institutions should be broken.

Cornett (in press) notes that the debates in SREB states included concerns for reducing the "obstacles" standing between liberal arts graduates and the schoolhouse door, and loosening the "pedagogues' monopoly on teacher licensing." It is an interesting concept, foreign to other modern professions, that one should view the basic training required in the field as an undesirable "obstacle" to entry, or that one should view those who provide it as exercising a "monopoly."

How would this kind of rhetoric be treated if it occurred outside the field of education? Would anyone urge that architects and accountants should avoid preparation for their fields, since it imposes an "obstacle" to immediate practice? or that engineers should be free to get their training outside of engineering schools, so as to avoid educational monopolies? Clearly, something beyond the logic society usually applies to professional education is operating in these conversations.

Klagholz and Schechter (n.d.) take the matter even further by asserting that "state certification of teachers is a peculiarity of the public schools." They contend that "teaching is not a licensed profession" and that "many—in fact most—members of the practicing profession do not receive training in how to communicate their subjects. Private and parochial school teachers practice without such training or certification and without the assumption of public risk." This line of thinking leads them to conclude that "no state in this country makes the legal assumption that public risk results when one teaches without state certification."

These assertions happen to be false—more than 30 states certify private school personnel, although New Jersey is not among them (Feistritzer, 1984), and the vast majority of private school teachers (over 85%) are certified (NCES, 1985). Nonetheless, it is important to pay attention to the rhetoric they employ, which constitutes a frontal assault on the practice of certification itself. Below we examine what might motivate such an indictment of this key governmental function.

One of the peculiar things about the alternative certification dialogue is that, while it is laced with implicit and explicit criticisms of teacher training and licensure, it is largely devoid of recommendations for the fundamental reform of either. Teacher education and certification, such as they are, are creatures of quite elaborate regulations established by the very state governments which are so critical of them. Furthermore, in most states, the level of investment is typically substantially less in the education programs that train teachers than in the programs that prepare all other college and professional school graduates (Darling-Hammond, 1990). In a logical world, one would expect that policymakers unhappy with the outcomes of their policies would make serious attempts to revise what they are doing in ways that change the outcomes they deplore. Presumably, then, the policymakers would feel sufficiently comfortable with their work that they could endorse their own regulations.

This would be logical, and thus it is not so in the "Wonderland" world of alternative certification. Certainly, many states have changed the regulations governing their traditional routes to certification, generally "tightening" standards by requiring minimum GPAs and/or test scores for admission and continuation in teacher education, and a variety of tests for graduation and certification (Darling-Hammond & Berry, 1988). Many have also increased the specificity with which they prescribe coursework requirements and/or "competencies" to be acquired.

However, as some states have "tightened up" on their traditional routes, regulating them more and more zealously, they have simultaneously stepped up their pursuit of alternatives, claiming that many teaching candidates might be deterred by having to go through the "hoops" which they have created for them! Many states' alternate routes to teacher certification do not comprise deregulation, since their traditional routes are more highly regulated than ever, but a rather schizophrenic method for allowing regulators to get around the rules they themselves have created.

These rhetorical riddles become immediately understandable as soon as one introduces terms that are commonly used to discuss quantity and quality issues in other fields but seem unspeakable in these debates: salaries and standards.

In most spheres of economic life, it is commonly understood that when an insufficient number of people present themselves for any set of occupational vacancies, there are two ways to fill the jobs: Raise the salaries until more people are interested in preparing for and entering the occupation, or lower the standards until they reach the qualifications level of those who are willing to work for less than market wages. Recurring shortages of personpower occur when salaries do not adjust to market levels. If employers are unwilling to raise salaries, they clearly must adjust standards.

Although some policymakers have seemed unwilling to acknowledge that this basic fact of economic life operates with respect to teaching just as it does other occupations, it is instructive to note that the states that are admitting the greatest number of candidates via alternate routes are also among the states with the lowest beginning salaries in their respective regions. These are also, not surprisingly, the states whose alternate route programs make the lowest educational demands on recruits prior to entry. Rather than increasing the benefits of teaching to draw recruits, they reduce the costs of entry to reach a market equilibrium.

Obviously, political discussions of these trade-offs have been muted, because both parents and teachers might become upset if they realized that the shortage dilemma could be alternatively resolved in favor of higher standards by virtue of higher salaries. That this trade-off can and does occur is witnessed by Connecticut's experience (Bliss, in press). There the passage of the Education Enhancement Act in 1986 propelled teachers' salaries to the top of those in the New England region and provided a foundation for strengthened teacher education requirements. By 1989, most teaching fields showed surpluses rather than shortages, and alternate route slots became few and highly selective. Even so, many individuals are willing to compete for scarce slots through both traditional and alternate routes, both of which ultimately require extensive graduate level training, because the benefits are worth the costs. Presently, the state is considering eliminating the alternate route because, with teacher surpluses, it seems not to be needed.

The primary issue, then, is not whether potential teachers are willing to undergo substantial training. It is whether the benefits of teaching are worth the costs associated with getting there. The related policy issue is whether—and how much—states are willing to invest in teachers and in the preparation of teachers. The quick fix forms of alternative certification are desirable policy for states which are not willing to invest either in teachers' salaries at competitive levels or in serious preparation for those who would like to teach but cannot afford the expenses of training.

A number of studies have confirmed that, along with salaries, financial aid is a major determinant of the type of preparation program recruits will enter. Even long and rigorous programs can attract an abundance of candidates, including candidates in shortage fields and minority candidates, if they are adequately subsidized (Adelman, 1986; Coley & Thorpe, 1985; Darling-Hammond et al., 1989). As Stoddart (in press) found in her Los Angeles study, most candidates entered the alternate route for financial reasons (64%); relatively few (only 28%) actually preferred to learn on the job rather than in a university setting.

While there are, then, many ostensible reasons for creating alternate routes to certification, the nature of the programs turns as much on the issue of states' ability and/or willingness to invest in teachers and their knowledge as it does on the question of how to get greater numbers or different kinds of recruits into teaching. Offering teacher education at the postbaccalaureate level is clearly a useful strategy for recruiting into teaching those midcareer changers who would have no incentive to return to undergraduate school. But the kind of program offered—a few weeks over a summer followed by "on the job" training vs. a 1- to 2-year course of study including a supervised internship or student teaching experience and resulting in a master's degree—represents, at root, an economic decision.

Considered in this light, the "success" of some AC programs in recruiting minority teaching candidates, in particular (see Cornett, in press; Klagholz and Schechter, n.d.; Stoddart, in press), could be viewed as at best a mixed blessing, and at worst a strategy for underinvesting in their preparation. To the extent that this underinvestment may undermine candidates' prospects for retention and success in the profession, such efforts may ultimately exacerbate the shortage of minority teachers by persuading many who were attracted to teaching to leave prematurely and/or to experience less success in their positions. A very different kind of option, pursued by states like New York (which has achieved comparable numerical success), is to offer scholarships and other subsidies to minority candidates so that they can afford to pursue full preparation programs.

The same concerns apply to the disproportionate training of teachers in shortage fields like mathematics and science in AC programs. If states are able to persuade individuals with needed talents to consider teaching, they should strive to make the investment necessary to ensure that these recruits have the preparation to be successful and committed over the long term. Otherwise, the programs will leave recruits unable to create successful and rewarding learning environments, a traditional precursor to early attrition, thus exacerbating the revolving door nature of teacher recruitment and making few inroads on long-term teacher supply needs.

Finally, given that most AC candidates are teaching central city children, the relatively low investment in their preparation, especially in comparison to students' needs for teachers with extraordinary levels of knowledge and skill, is also a matter of concern with respect to their students' educational futures. If effective teaching requires knowledge of how children grow, learn, and develop; of a wide range of teaching strategies to address diverse learning styles and goals; of pedagogical choices, curriculum possibilities, and assessment tools; then teachers of central city children must encounter and master such knowledge at least as fully as teachers of other children. There are important issues of educational equity associated with the use of alternative certification as a policy response to teacher shortages in economically disadvantaged school districts. States may be avoiding costlier solutions at the expense of students who are already underserved (see Darling-Hammond, 1990; Oakes, 1990).

These economic decisions reflect both short- and long-term commitments to teacher training and recruitment. States which have opted to use alternate routes as a way of boosting supply by getting teachers into classrooms quickly with relatively little training are able to maintain a salary structure below market wages and to fill classrooms with relatively low investments in teacher training. This is especially true where traditional teacher education requirements have been concomitantly reduced, and where licensure decisions have been handed over to local school districts, since the question of standards is thereby finessed.

On the other hand, states which have established competitive salary schedules along with programs that subsidize the costs of teacher preparation have created very different types of alternate route programs. In these cases, they have used the alternate route concept as a way of increasing the pool of post-baccalaureate candidates while moving more of the teacher education enterprise into redesigned master's degree programs. They have succeeded in requiring that their teachers be better prepared while still increasing the supply of teachers in their states.

In the final analysis, alternate routes to teacher certification will be deemed a policy success to the extent that they improve teacher preparation while working in concert with other state policies to expand the supply of highly qualified and committed teachers to all children and communities. Current evidence suggests that some approaches to alternatives are much more promising in this regard than others.

These other state policies will need to include investments in continuing improvements to teachers' salaries, working conditions, and other factors influencing the attractiveness of teaching, along with subsidies for teacher preparation and incentives for the continuing improvement of teacher education. If alternate routes are successful in the short term at suggesting some viable, high-quality options for preparing teachers for the more challenging demands of 21st century schools, their success should be measured in the long term by their disappearance, and the incorporation of their best-tested features into a reconstituted teacher education and certification structure.

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The Place of Alternative Certification in the Education of Teachers

Gary D Fenstermacher

The title of this article sets an ambitious task, for it is no simple matter to locate and examine alternative certification within the more general and inclusive framework of teacher preparation. The concept of alternative certification suffers two liabilities at the moment. Its meaning is obscure, and its forms of implementation are many. Thus the first task is to clarify the meaning of alternative certification. In this article, this task is handled in the form of a dialogue in hopes that this format will make the usually tedious process of extended definition more interesting for the reader. The format then switches to expository prose for an analysis of the concept of alternative certification. A central purpose of this analysis is to appraise the worth or value of alternative certification relative to other forms of teacher preparation.

Following this second part, the dialogue resumes in an effort to clarify the apparent tension between current initiatives to professionalize teaching and those initiatives aimed at more firmly establishing alternative certification programs. This tension arises from the fact that professionalization initiatives typically call for sustained and rigorous study for entry into the profession, while alternative certification programs are often viewed as quick and rather elementary ways to enter teaching. A better understanding of this tension illuminates some of the more critical issues surrounding the broader notion of how teachers are prepared.

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The article concludes with an exploration of how policies pertaining to teacher education might unfold over the next 5 to 10 years. One possibility given serious consideration here is that the more reputable forms of alternative certification may have a healthy impact on traditional forms of teacher education. Yet there are distinct limits to the potential value of alternative certification programs, one of which is the nascent but growing federal role in teacher education. These limits are examined in relation to ideas developed in the previous three sections.

With the overall structure of the argument thus described, let us turn to the first section to gain a more precise sense of what is meant by alternative certification. The dialogue takes place in a history of education course, with seven students and a teacher. The class size is small because all classes in 2092 are small, there being no other reason to meet as a class save dialogue and discussion (technology is used for other aspects of instruction). The students are named simply Stuone, Stutwo, Stuthree, and so on (this way of naming the participants is an effort to avoid inappropriate references to race and gender; it is not a prediction about how students will be named in the future). The teacher, not surprisingly, is called Teaone.

I. On the Meaning of Alternative Certification

Imagine a graduate history of education class in 2092. Teaone is covering what has come to be known as the "school reform movement" of the late 20th century. On completing the lecture, she asks if there are any questions. Stuone opens the discussion with, "I encountered a concept in the reading I did not understand. Can you explain 'alternative certification'?"

"Given the way we employ the term 'certification' today," answered Teaone, "the concept of alternative certification as it was used in the late 20th century must be confusing. As that time, it was an approach to licensing teachers that bypassed the more traditional route of completing a professional course of study in a teacher training institution. Some historians contend that it was a purely political device used by certain state governors and legislators to place themselves in the forefront of the school reform movement. Others argue that it was a legitimate attempt to. . . . "

"Excuse me," interrupted Stutwo, "I'm still confused about the meaning of the term, and it sounds as if you're moving on to an explanation of how it came about."

"Sorry," replied the instructor. "It's sometimes difficult for me to distinguish the meaning of the idea from the way it came about. But I'll try. In the decades before the school reform era, the terms 'licensure' and 'certification' were barely distinguishable. People talked about earning a teaching certificate and renewing their certificates, seldom referring to them as licenses. Technically, however, the states of the union were licensing the applicant to teach by issuing a certificate to teach in the public schools. Thus the synonymy of the terms license and certificate."

"In the mid-80s," continued Teaone, "the president of one of the two major teacher's unions surprised a lot of people by calling for a national examination for teachers (Shanker, 1985). This idea was soon picked up by a task force funded by the Carnegie Corporation (Carnegie Forum, 1986). The Carnegie task force proposed that passage of this national examination would lead to a certificate signifying advanced competence as a classroom teacher. The Carnegie proposal engendered some confusion in terminology, as people now had to distinguish between the certificate that one earned at the completion of initial teacher preparation and the certificate that one earned following completion of a number of years of teaching and the passage of an advanced examination."

"The task force sought to resolve the confusion by drawing a distinction between licensure, which is a function of the state acting on its authority to protect and promote the general welfare, and certification, which is a function of the profession itself acting to acknowledge those who demonstrate advanced capabilities (Carnegie Forum, 1986, p. 65). Other writers picked up the distinction (Goodlad, 1989; Jordan, 1988) and it was not long before licensure and certification came to mean two quite different processes, realized at different times in one's teaching career."

"It sounds as if educators were trying to mimic the way physicians structured their education and certification procedures," interjected Stuthree. "Was the advanced examination for teachers something like a specialty or board certification for physicians?"

"That's not far off the mark. Some turn-of-the-century advocates for alternative certification drew just such a parallel (e.g., Kelly, 1989). The analogy between teaching and medicine also drew a number of criticisms (Fenstermacher, 1990; Soder, 1990). But let's get back to the distinction. Do you now have a clearer sense of the differences between licensure and certification?" asked Teaone, looking at both Stuone and Stutwo.

"I think so," replied Stuone, "yet I thought I heard you say that the term certification came to be used as a sign of advanced competence. But wasn't 'alternative certification' an alternative to traditional teacher education programs, and thus related to the beginning of a teacher's career? If I'm right, shouldn't it have been called 'alternative licensure'?"

"Hummm. That's a reasonable conjecture," answered Teaone. "Recall that in the late 1980s and early 1990s, the term 'certification' might mean the same as 'licensure' or it might refer to the validation of advanced competence. In the expression, 'alternative certification,' the term is employed in the former sense, and means the same as licensure. It was another way to earn the initial teaching license issued by the state, other than by completing a traditional teacher preparation program."

Stutwo then inquired, "You started to describe how alternative certification came about, and I interrupted you at that point. I would like to know more. Was it done as a form of repudiation of traditional teacher education programs?"

"Many people seemed to think so," responded Teaone. "It certainly evoked a strong response from the major teacher education associations of the day (American Association of Colleges for Teacher Education, 1989; Association of Teacher Educators, 1989). On the other hand, the advocates regarded alternative certification as a way of bringing persons with academic degrees and perhaps some career experience into teaching without first having to pass through extensive teacher training programs in colleges or universities (Connors, n.d.; McKibbin, 1988; Rosiek, 1990). Some persons argued that alternative certification was a way to increase the control of local school districts over initial teacher preparation (Danzig, 1987; Haberman, 1987). Others said its primary purpose was to provide a better way to deal with teacher shortages" (Graham, 1989).

"How could it have anything to do with teacher shortages?" asked a student who had not yet spoken.

While the instructor paused to consider an answer, Stufour tentatively interjected, "I think it had something to do with what were then called 'emergency certificates.' My understanding is that teacher supply and demand moved in cycles for 2 centuries preceding the Education Reconstruction Act of 2056. In times of great demand for teachers, school districts requested emergency credentials from their respective state education agencies. These emergency certificates permitted unlicensed persons to serve as teachers for periods ranging from 3 months to 2 years. There was a fair amount of criticism directed at this procedure, as districts were not always careful about the quality of persons hired" (Haberman, 1986).

"You're right," said Teaone. "Some people thought that alternative certification was a better way to deal with teacher shortages than the use of emergency credentials. The reasons they gave were that alternative certification—at least the kind they had in mind—required on-site training and supervision, plus some professional course work, whereas emergency credentials typically had few, if any, stipulations for training or supervision."

"You just used the word 'credential' in reference to an emergency certificate. Is this yet another synonym for certificate?" asked Stuthree.

After a moment's thought, the instructor said, "To the best of my knowledge, yes. Different states used different terms, though they all seemed to mean much the same thing. There are many references to 'credential' in the period before the school reform movement began. As the reform movement gained momentum, the terms 'certificate' and 'license' appeared more frequently."

"It's OK, then, to just forget about the term 'credential'?

"Yes," replied Teaone.

"Could we return to the reasons for proposing alternative certification?" persisted Stutwo.

"Of course." The instructor tapped on a keyboard and a series of diagrams and charts appeared on two of the three screens at the front of the room, as well as on smaller screens at each student's desk. There was a soft, whirring noise throughout the room as the students all tapped keys at their seats, recording the displayed data on small disks each of them had inserted in their desk consoles just before class began.

Pointing to the first screen, the instructor said, "Note this composite analysis by historians of education. In 1990, depending on whose data you accept, there were at least 33 states (National Center for Education Information, 1990), and perhaps as many as 48 states (American Association of Colleges for Teacher Education, 1990) that offered some form of alternative approach to what was then known as 'traditional teacher education programs.' As there were 50 states, plus the District of Columbia, at the time, there may have been only two states—depending on whose date you accept—without an alternative route to beginning a career in teaching."

"The second screen displays a list of reasons for the apparent popularity of alternative certification (see Table 1). What is not clear from this screen is the relative strength or potency of these reasons. For example, the first reason shown is that alternative certification offers a means for bright college graduates to move into teaching without completing any form of extended teacher education (see, e.g., Shulman, 1989). Whether this reason accounts for the popularity of alternative certification more so than reasons having to do with perceived teacher shortages or with the apparent poor image of traditional teacher education programs is simply not clear—not even a century later."

Continuing the discussion of the reasons behind alternative certification, Teaone then examined the bearing of alternative certification on

Table 1
Contents of Screen Two

Possible reasons for the acceptance of alternative certification:

1. Provide opportunities for bright college graduates to begin careers in teaching without having to complete extended teacher education programs.
2. Provide relief in times of a teacher shortage while also resolving the problems of competent performance engendered by emergency credentials.
3. Break the lock that teacher education institutions appear to have on entry into the teaching profession.
4. Provide political capital for politicians and policymakers who want to be identified with the school reform movement.
5. Offer a means for other actors, such as foundations and corporations, to become players in the formation of teaching policy.
6. Increase the range of choices or alternatives available for career entry, consistent with the emerging, more pervasive political ideology favoring choice and deregulation.

traditional teacher education programs: "Note that the third reason pertains to what were called traditional teacher education programs. Some policymakers believed that traditional teacher education programs were filled with intellectually vacuous methods courses, that the material studied in these courses was redundant, distant from practice, or both (Connors, n.d.). A Texas state senator, Carl Parker, became quite well known to the teacher education community in the late 1980s for just such views about traditional teacher education."

"Senator Parker contended that 'colleges of education were abusing teacher preparation programs by including redundant material in their courses, substituting education courses for courses in other fields, and requiring worthless content' (quoted in Watts, 1989, p. 313). Among the perceived consequences of these supposedly dreadful courses were that they prevented teacher education students from taking a full complement of liberal arts courses, and they discouraged bright persons with degrees in academic subject areas from pursuing careers in teaching. Though Senator Parker had some misgivings about alternative certification, it seems clear that many states enacted these programs as an option to the apparent vacuity of teacher education programs."

"It may also have been the case," continued Teaone, "that some policymakers had an aversion to traditional teacher education programs, but rather than express their feelings of anger or frustration, they announced their support of alternative certification on the grounds of teacher shortages or to assist those who already held college degrees but had no coursework in education. Other advocates may simply have wanted to do something that aligned them with the school reform movement; advocating alternative certification was, perhaps, a low risk way for them to get on the bandwagon."

"I'm curious about the item on choice, reason number six," said Stufour, the student who earlier explained the notion of emergency credentials.

Stuthree volunteered an explanation, and Teaone nodded that he should proceed. "The idea of alternative certification may have gained political value because it represented a choice in the way teachers are trained. Choice was a compelling political concept at this time; it made its appearance in education in a number of ways, not the least of which were tuition vouchers and school choice plans. Recall that deregulation and a revival of the market economy were also part of the political agenda in the last quarter of the 20th century; one could see alternative certification as an extension of the deregulation effort, as it provided a way to enter teaching by avoiding what some persons thought to be the monopoly controls of the teacher education colleges and universities."

"That's interesting," commented Stutwo. "Alternative certification seems to have been an idea that was in the right place at the right time."

"It does look that way, doesn't it?" commented Teaone.

After pondering the idea that the late 20th century was a serendipitous time for alternative certification, Stuone sought to clarify a troublesome point. "The distinction between alternative certification and emergency certification appears to be that the former required supervision, mentoring, and a course of professional study, while the latter was merely a way to get someone in front of a classroom in times of shortage. Am I right?"

"Yes, to the best of my understanding," responded Teaone. "Although, because there was considerable variation in alternative certification programs at the time we are discussing (National Center for Education Information, 1990), you have to be careful about quality judgments. This variation may be one of the reasons at least one education association had such a difficult time deciding where it stood on the issue. The National Education Association, which at the time represented two million of the nation's school teachers, at first opposed alternative certification. Later the Association gave the notion of alternative certification a 'qualified endorsement,' provided they met specific conditions" ("NEA gives," 1990; Viadero, 1990).

"What were the conditions?" inquired Stufive.

"Let's check the data base to see if we can get you a precise answer," said Teaone. "Use the LAMP data base, coordinate on 1990, National Education Association, and alternative certification, then specify news releases." The students entered the coordinates on their desktop keypads, and waited for the display. Teaone waited for a few moments, then asked what the group had found.

"It seems the NEA wanted those prepared in alternative programs to meet the same standards as those prepared in traditional teacher education programs," remarked Stufive, in effect answering his own question. "Their 'qualified endorsement' rests on making provision for some professional courses of study, controlled entry into full classroom responsibility, and some form of supervision and mentoring."

"I input 'Teacher Education Association' instead of 'National Education Association'," said Stufour. "The policy statements from the major teacher education associations that appeared on my screen all contain similar provisions" (American Association of Colleges for Teacher Education, 1989; Association of Teacher Educators, 1989).

"Is there any overarching idea that would help us understand or get a better sense of all this variation?" asked Stusix, in a manner that indicated some frustration with understanding this material. Teaone asked what Stusix had in mind with this question.

"I'm simply wondering if there might not be a key idea or two to help us gain some perspective on what was taking place in this arena 100 years ago."

Stuseven, speaking for the first time, indicated that it might prove helpful to categorize the ideas discussed so far. "Think of traditional teacher education, alternative certification, and emergency certification as three ways to begin a teaching career. The first requires extensive study prior to taking responsibility for a classroom, and is generally under the umbrella of a teacher education institution. The second places you in a classroom rather quickly, with some study and supervision, though this varies from district to district or state to state. The third requires little if any prior preparation, generally lacks a careful program of supervision and mentoring and limits you to a stipulated period of time, from 6 months to 2 years."

"That's helpful," said Stuthree. "Your synopsis brings to mind something I hadn't noticed before. There was a 'locus of control' phenomenon here. Most programs of alternative certification seemed to place initial teacher preparation in the hands of the employing school district rather than a teacher education institution. Perhaps that is part of worried teacher educators and their associations."

"Quite possible," said Teaone. "States varied on whether teacher education institutions were required as participants in the alternative certification training program, but to the best of my knowledge, local school districts 'called the shots,' as they said in those days."

"So how did this all turn out?" asked Stufive. "While the rest of you were kicking around the last set of ideas, I searched two different data bases looking for the outcome of this conflict in teacher preparation. I can't get a clear picture."

"I don't think there is one," answered Teaone.

"What!" several of the students exclaimed. "Surely this matter resolved itself over the next few decades?"

"Well," said Teaone, "the matter did not get resolved in such a way that you can say that one approach or the other prevailed."

II. Appraising Alternative Certification in Relation to Standard Teacher Education Programs

The dialogue is suspended at this point in order to address the relative merits of alternative certification and traditional teacher education programs. The instructor's last comment indicates that there were no clear winners or losers in what seems, in the year 1992, to be a policy battle of some proportion. This section offers an analysis of why it may turn out that neither side is winner or loser in this policy conflict.

As noted at the outset of this article, the definitions of alternative certification vary widely, as do the forms of implementing alternative certification policies. In a Congressional Research Service report to Congress, Stedman (1990, p. 17) states that "alternative certification is plagued by definitional problems, particularly the distinction between it and emergency certification." These differences in meaning and forms of implementation make it difficult to compare alternative certification to other forms of licensure.[1]

Moreover, insofar as alternative certification is, in large measure, a political solution to perceived problems with procedures for entry into the teaching profession, such evidence as may be obtained on the relative merits of the different approaches is likely to be highly "filtered" by political processes. Those who have witnessed similar policy reforms in education are aware that the eventual outcome is usually the one that most accords with the preferred values of the policy-makers, rather than the outcome that may be best supported by the available evidence.

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[1] There are at least four different ways to obtain an initial teaching license. One is through traditional teacher education, also known as the approved programs approach. The second and third mechanisms are emergency credentials and alternative certification, respectively. The fourth way is direct application, wherein an applicant "assembles" a documentary record showing that all state requirements for a license have been met, and submits this record directly to the state for review and issuance of a license. A fifth way is available in some states; known as an "eminence" credential, it is issued to persons of great distinction and accomplishment in a particular field, thereby permitting them to teach school in the area of their expertise.

Finally, there is the matter of what standards or criteria are used to judge the relative worth of alternative certification. Even if we were able to resolve the definitional and operational ambiguities inherent in notions of alternative certification, and we were able to set aside the politicized character of this initiative, on what basis would we say that alternative certification is better, worse, or no different from traditional teacher education? There is little agreement among teacher educators and educational policymakers on what constitutes the proper proficiencies and abilities of a beginning teacher.[2]

Indeed, much of the teacher education debate over the last few decades has been focussed on *how* training should be carried out, with scant attention to the *goals and purposes* for initial teacher preparation. This focus on how to educate teachers is portrayed in Figure 1. This figure depicts three of the more prominent issues in typical teacher education programs. Note that each of the items pertains to how the work of initial teacher preparation is accomplished.

The first continuum (C1) characterizes the debate over whether teacher education ought to take place at the school site or on the campus of the teacher education college or university. There is, of course, a practical component in all teacher training (student teaching being the most well known). Yet some teacher educators argue that most if not all of the training program ought to take place close to the practice that one is seeking to master—witness the great fervor with which professional development schools are discussed in the literature of the 1980s and 1990s (Goodlad, 1984, 1990; Holmes Group, 1986, 1990; Schlechty, 1990). Alternative certification programs hold appeal for many because they take place almost wholly at the school site.

The second continuum (C2) expresses the debate between those who argue that subject matter mastery is the primary attribute of good teaching and those who claim that subject matter knowledge is useless if one lacks the skills and methods to impart that knowledge to learners.

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[2] There is, fortunately, somewhat more agreement on what constitutes effective teaching now than there has been in the past (see, e.g., Dill & Associates, 1990; National Board for Professional Teaching Standards, 1989). However, within the arena of educational policy, the debate about how much and what kind of liberal and professional education is needed or preferred to properly prepare a classroom teacher continues.

Training occurs close to practice		Training occurs far from practice
<	1	>
Training emphasizes pedagogical methods		Training emphasizes academic content
<	2	>
Training conforms to practice		Training revises practice
<	3	>

Figure 1. Issues pertaining to the initial preparation of classroom teachers.

No one argues that there should be *no* academic content study in the preparation of teachers. The debate is over whether such content preparation ought to consume part or all of the undergraduate years, whether students should concentrate in a specific academic discipline or complete an extended general studies curriculum, and how much of the student's study ought to be allocated to academic content areas versus professional education coursework. Here again alternative certification takes on a certain patina to the reform-minded, as it offers those students with baccalaureate degrees in academic fields (in contrast to education) a relatively simple and direct route into teaching, while diminishing the emphasis on the study of pedagogy.

In a report on New Jersey's alternative certification program, the Council on Basic Education (Gray & Lynn, 1988) states that New Jersey's efforts "to attract into the classroom talented people who have chosen not to enroll in education programs as undergraduates" is a "laudable goal," and that "New Jersey deserves praise for initiating what surely appeared to be a risky experiment" (Gray & Lynn, p. 6). The report goes on to indicate that academic preparation is the *sine qua non* of this particular alternative certification effort:

> Of the assumptions that undergird the Provisional Program, first and most striking are the notions that substantial knowledge of an academic subject is the most crucial qualification for an effective teacher, and that professional skills essential to success in teaching

> students and managing classrooms can be imparted in fairly short order. (p. 6)

These sentiments clearly illustrate the strong inclination of alternative certification towards the right side of C2, whereas traditional teacher education would be located more to the center and perhaps, depending on the particular program, somewhat to the left.

The third continuum (C3) characterizes what is primarily an in-house debate among those involved in traditional teacher education. Teacher educators are often frustrated with the gap between theory and research about schooling on the one hand, and the actual practices and events that take place in the schools on the other. This frustration is articulated as a conflict over the preparation of teachers for the world that theory and research say are possible, or for the world that the prospective teacher will find upon entry into the school. Some teacher educators have argued that part of the value of good teacher education is that it prepares persons not just to accept the classrooms that they find, but to create the classrooms that they know to be in accord with sound theory and research.

Though this conflict continues within traditional teacher education programs, it is not an issue in alternative certification programs. Alternative certification resolves the issue simply by virtue of what it is: an immediate induction into the world that is there, and thus there is little time, opportunity, or inclination to consider what one might do (at least in the first few years) to change the circumstances that one finds on entry into the profession.

These, then, are some of more prominent issues that concern those involved with the preparation of beginning teachers. It should be clear from this discussion that they are dichotomies of *how* preparation is done, and do not pertain to the purposes or ends of teacher preparation. In each case, alternative certification resolves the conflict in ways that accord with everyday common sense (which is not necessarily the same as good practice) or that are comfortably aligned with the biases inherent in the current school reform movement. In such a context, it is nearly impossible to appraise the relative merits of different approaches to teacher licensing. Not only are the *how* conflicts too rudimentary as a basis for analysis and comparison, they are also magnets for favoritism and ideology on the part of the school reformers as well as traditional teacher educators.

Until the purposes or ends of initial teacher preparation are addressed, we are without standards or criteria to judge the merits of the different programs. Thus, before becoming further engaged in a comparative analysis, we must turn to examining the point and purpose of initial teacher preparation, whether done by programs of teacher education in schools, colleges, or departments of the education, or by programs of alternative certification that take place at the school site.

If we say that the primary purpose of initial teacher preparation (ITP) is to equip the teacher with the skills needed to help children learn the material set forth in the school curriculum, the issue of whether ITP is best done by alternative certification (AC) or traditional teacher education programs (TEP) is primarily an empirical issue. That is, this issue can be resolved by framing a research design and carrying out a study of the effects of the two approaches to ITP.

There are some preliminary studies that begin to address the differential effects of the two programs (Carey, Mittman, & Darling-Hammond, 1988; Grossman, 1989a, 1989b; Natriello & Schechter, 1989), but they are not yet sufficiently complete to render a definitive judgment. In the absence of complete and unequivocal data, it is certainly possible for us to suppose that some forms of alternative certification are as powerful as, perhaps more powerful than, TEP programs in equipping the student with the needed initial skills for teaching. Were school sites and districts willing to allocate the time and resources to AC programs, these programs might, perhaps even now do, compare favorably with campus-based TEP programs. Thus, the question of whether ITP is better accomplished through TEP or AC programs depends on the allocation of talent and resources to either one, assuming that by "better accomplished," one means equipping the student with the skills needed to perform the duties of a first or second year teacher.

But suppose the question of comparative judgment was reframed to ask which program yielded the best results when the criteria were based on the effectiveness of a teacher with four, five, or more years of experience. That is, rather than assess the effectiveness of differentially trained teachers within the first 1 or 2 of teaching, on the basis of skills required to carry out the usual duties of a lst or 2nd year teacher, the effectiveness of the more experienced teacher was assessed, on the basis of a more robust and fundamental conception of what it means to be a teacher. Goodlad's (1990) recent study of teacher education provides an excellent point of departure for examining the goals and purposes of teaching. He identifies four dimensions of teaching: (a) facilitating critical enculturation, (b) providing access to knowledge, (c) building an effective teacher-student connection, and (d) practicing good stewardship. According to Goodlad:

> . . . the first two emerge out of the functions specifically assigned to schools: enculturation of the young into a democracy and inculcation of the disciplined modes of thought required for effective, satisfying

> participation in human affairs. . . . The other two components are intended to ensure the first two: a comprehensive grasp of pedagogy and of the values, knowledge, and skills to be brought to bear in the ongoing renewal of schools in which teachers will spend their professional careers. (p. 52)

Preparing a teacher for excellent performance along each of these dimensions is, for Goodlad, an intellectually and morally demanding enterprise. About political enculturation, Goodlad contends that teachers must "possess a deep understanding of both the governance structures and processes of this political democracy and the requisites of humane citizenship" (1990, p. 52). On the matter of engaging schoolchildren in disciplined modes of thought, Goodlad argues that this requires that teachers learn the subject matter twice—"the first time in order that it be part of their being, the second time in order to teach it" (p. 52).

These dimensions of teaching clearly imply a set of teaching abilities and aptitudes that a teacher with 4 or 5 years of experience may reasonably be expected to demonstrate with some proficiency. Without a great deal of effort, each of us could derive a number of these abilities and aptitudes from Goodlad's dimensions. For example, we could say that it is reasonable to expect the following from a teacher with several years of experience:

1. The teacher's classroom activities are characterized by open dialogue and discussion, and the interactions between and among teachers and students are just, respectful, and considerate.
2. The students report that they are challenged and stimulated by the work they are assigned to do, and valid assessments of their learning show that they are mastering the "disciplined modes of thought."
3. The teacher is regarded by his or her professional colleagues as well-informed in his or her areas of specialty, dedicated to the welfare of the students and the school, and helpful to other teachers and administrators.

This brief list could easily be expanded, though it is not necessary to do so here. The point is to make evident that there are enlightened and sophisticated conceptions of teaching that inform our sense of what teachers can and should become as they mature in their profession. From this point, we can ask whether some forms of initial teacher preparation are more or less likely to yield teachers who, in their own practice, attain the abilities and aptitudes implied by an enlightened and sophisticated conception of teaching. This question, as the vernacular would have it, puts the rubber to the road.

The contention here is that to appraise the relative effectiveness of traditional teacher education programs (TEP) and alternative certification (AC) as forms of initial teacher preparation (ITP), we cannot look merely at the differences in results in the 1st or 2nd year of teaching. The reason that we cannot do so is that the key to excellence in a professional field is the ability to learn and profit from one's own experience. The first few years of classroom teaching are likely to be highly similar undertakings, regardless of the training a teacher receives (this statement will not hold true in all cases, but I believe it will for most cases). In the early years, the teacher is struggling to understand the human dynamics of a school classroom, to gain some measure of control over these dynamics, to find the right mix of personal and social behaviors that work in *this* school, with *these* children, at *this* time in one's life, and to balance the tremendous variation in the needs and abilities of the learners with enormous limitations of time, energy, and resources.

How the teacher weighs, negotiates, and decides these competing pressures and obligations determines, in large measure, what kind of teacher that person becomes. If it is to be done well, this balancing, deciding, and negotiating must be rooted in an expanded knowledge base, in a well-grounded set of moral principles, and along the four dimensions described by Goodlad (see above). Thus it is as the teacher matures over the first 3 to 5 years that we begin to learn whether the person's preparation has made a difference. And it is for these reasons that the proper criteria for assessing the differential effects of initial teacher preparation must be framed with reference to 4th, 5th, and even later years of teaching.

Teachers who are most likely to achieve these outcomes are those who can think critically and reflectively about their own practices, and who possess the skill and understanding needed to acquire and deliberate on the continually expanding knowledge base about teaching and the academic content they impart to students. The capacity to acquire new knowledge is essential to being able to think reflectively about one's own practice, and to changing practice (Richardson, 190b). Without new knowledge, one's reflective inquiries stall, perhaps even peter out over time. Thus both a critical and reflective capacity, and the skill and understanding needed to acquire new knowledge in pedagogy and one's academic area, are all required in order to become the kind of teacher described above.

Teachers who possess these attributes can learn from their own experience. They possess the capacity to look at their actions with a degree of detachment, and can appraise their actions using sound theory, research, and moral principle. The ability or capacity to be reflective, to appraise oneself with a degree of dispassionate analysis, to employ new knowledge and understanding in the assessment of one's action, and to gauge the immediate and ongoing consequences of one's behavior, are the hallmarks of the well-prepared teacher.

This array of capacities and traits is different from the "What do I do on Monday?" repertoire of skills, or a roster of effective teaching skills such as that embodied in Performance Measurement System instituted in the state of Florida several years ago. While skill and technique are vital to teaching, for they make up much of the day-to-day tools of the job of teaching, they are little more than reconstructed rules and routines. If they are followed blindly, as they often are, they result in teaching that is blind—blind to context, blind to nuance, and blind to the unique life histories of the students and the teacher. Moreover, if these skills are merely embraced and followed as if they are rules, they become the basis for all the teacher does, all of the time he or she is teaching. Teaching so determined will not change until the rules are changed. Yet rules by their very nature can never be rich and detailed enough to meet all situations; they can never be changed fast enough to meet the changing circumstances of contemporary schools and classrooms, and they can never be enforced carefully enough to prevent people from making their own idiosyncratic adaptations when the rulemakers are out of sight or out of office.

Powerful and effective teaching requires something more than a master list of skills, or a rulebook of teacher behaviors. It requires the ability and the freedom to place the day-to-day operating skills of teaching into a context that best accounts for the individual and collective lives of the students in the classroom, for the unique character and ability of the teacher, and for the circumstances of the particular school and classroom environment. It requires that the teacher possesses the capacity to assess the operating rules and skills within the particular context of his or her work, deciding what to retain or discard in this context. It requires that the teacher have the ability and the freedom to recognize that current methods and procedures are not working, and to seek out and try new methods.

It is the development of this understanding and ability that is the task of those who educate teachers. When done well, initial teacher preparation is a process of preparing teachers who are critically reflective in their practice, teachers who do not simply know and apply operating skills, but who can think through the adjustment of these skills based upon increasing familiarity with context. In short, a teacher educator's task is to equip the novice teacher to be discerning when considering the purposes, procedures and consequences of teaching (Hawley, 1990a; Kennedy, 1989; Richardson, 1990a; Schön, 1987).

Herein lies the source of possible conflict between traditional teacher education programs (TEP) and alternative certification (AC). To the extent that TEP produces teachers who are discerning and reflective, and AC does not, it is to that extent that TEP is superior to AC. Although there are no conceptual or logical impediments to the achievement of these larger purposes through alternative certification, there is a practical impediment. Alternative certification is frequently regarded as a fast way to gain entry to teaching, without an extensive period of professional training. There may be little or no contact between a person serving as educator to the new teacher and the new teacher. Without extensive contact and conversation, without analysis and feedback based on sound theory and research, without serious and sustained examination of the consequences of the teacher's actions for the students, teachers simply do not acquire the sophisticated traits and capacities that cultivate discernment and the ability to practice reflectively (Richardson, 1990b).

On the other hand, because it is located so close to practice, alternative certification presents an enviable opportunity for the kind of interaction that grooms a person to be critically reflective. The essential ingredient is frequent contact and conversation with one or more experienced teachers who are themselves reflective practitioners and who possess the requisite traits for imparting these abilities to others. After an intense year of supervised work in a classroom setting, a sustained period of time for analysis and study would be in order so that the new teacher can apprentice with a master teacher educator. Structured carefully, programs of alternative certification might achieve many or all of valued outcomes of a fine traditional teacher education program.

Just how likely we are to realize superb programs of alternative certification is an open question. A far heavier investment would be required than the investments now typically made in most, perhaps all, alternative certification programs. If such an investment were made, the distinctions between traditional teacher education and alternative certification are likely to blur considerably, making it difficult to favor one over the other, and thus making the choice between the two a matter of convenience or preference and not one of "quick and dirty" versus "longer, costlier, and possibly better."

There is another element to ponder when assessing the relative worth of alternative certification. How many of the 1,000 plus traditional teacher education programs in the United States can be identified as having faculties of master teacher educators who in turn prepare their students to be reflective practitioners? There is, of course, no definite answer to this question, for, as noted earlier, there are no shared standards or criteria for appraising initial teacher preparation. As a result, no one has been able to assess the value of teacher education programs on any large scale. This brute fact creates the uncomfortable condition for traditional teacher education of being without strong argument when pressed with the question: In the absence of clear evidence of success on well-grounded criteria for traditional teacher education, why should the state not permit a quicker, more simple route to licensure?

The question is a compelling one, and its power may account for the softening of the National Education Association's opposition to alternative certification, as well as to the character of the position statements issued by the American Association of Teacher Education and the Association of Teacher Educators. Both these statements have a strong flavor of, "It looks like alternative certification is here to stay, so let's try to get those who control it to do a good job implementing it" (which, by the by, appears to be accomplished by doing the job as they—the teacher educators—do it).

On looking closely at the current state of affairs in both traditional teacher education and alternative certification, one is reminded of a poker game. All the players in this game know what it means to hold a powerful hand, like four of a kind or a straight flush, but they never held one. Two of the players in this game are named alternative certification (AC) and traditional teacher education (TEP). One has a hand with a pair, the other a hand with two pair. Neither hand is very strong. As is the case with such hands, there is a lot of bluffing going on as the first round of betting moves around the table. In 1991, we have not yet reached the point in the game where the players discard and draw cards. Among the possibilities at this moment is that the game will continue and a winner will emerge, that one or more of the players will throw in the hand, or someone will note that, given the stakes, this is the wrong game.

Teaone, teacher to the history of education class in 2092, reads the history of the period as leading to tossed hands; both AC and TEP threw in their hands, neither believing the hands held sufficient strength to win the game. In other words, the debate, like so many other debates in education, simply mellowed into a kind of peaceful co-existence, wherein TEP and AC continued to be available routes to licensure until the natural course of events simply overtook them and they evolved into something that cannot be recognized as either alternative certification or traditional teacher education.

There is an opportunity, in this decade, to work towards a different conclusion, one that strengthens the hands (if the reader will suffer this analogy a moment longer) rather than tossing them in. This alternative to alternative certification is a blend of what some regard as the best of AC and TEP. To describe it in any detail requires that we have a sense of another set of issues currently debated in the teaching policy arena. These issues pertain to the professionalization of teaching.

III. The Professionalization of Teaching

"It seems incredible that these educational issues could spark such passion and debate, yet there were no agreed-upon ways of effecting a resolution," Stusix remarked. "I think I understand how the debate fizzled, given the lack of agreement on the larger goals and purposes of teacher education. Still, it's a surprise to me."

"Me, too," said Stuseven. "I would have thought there were quite different interests at work, with politicians and reformers lined up behind alternative certification, and teacher educators lined up behind traditional teacher education. It seemed to have all the marks of a grand debate."

"So it did," remarked Teaone, "though quite a few policy issues turn out this way. They fade away, either because they are slowly absorbed or assimilated into existing systems or they just die for lack of constituency, funds or redeeming social value" (see Hawley, 1990b).

"What puzzles me about it," said Stusix, "is that there were some other issues at the time that I thought would have impelled this debate, and led to some kind of definite resolution."

"Just when I thought I had this all figured out," said Stutwo, "you're going to make it more complex. What is it now?"

"It is the issue of professionalizing teaching," answered Stusix.

"You mean people debated that in the 1990s," interjected Stufour.

"Oh, yes," Teaone replied. "Professionalizing teaching was one of the more hotly debated educational issues at the turn of the century."

"Just what was the nature of the debate?" inquired Stufour.

"I was reading about this last night," said Stusix, "and I think I can answer that question. A work by Darling-Hammond and Berry (1988) came up on the data base as a primary source for analyzing teaching policy near the close of the century. You can call it up by entering "L*DHB-988-5548" on the LAMP base." Everyone punched in the code, including Teaone. Those who preferred reading the abstract in larger print on the wall-mounted screen looked up from the small monitors at their desks.

Stusix continued, "Apparently in reaction to an era of policy that placed fairly tight controls on teachers, and as a result of a growing body of knowledge about effective pedagogy, there was a movement afoot to professionalize teaching. Darling-Hammond and Berry (1988) define professionalization as 'the extent to which members of an occupation share a common body of knowledge and use shared standards of practice in exercising that knowledge on behalf of clients' (p. v). They go on to state that professionalization 'incorporates conditions of specialized knowledge, self-regulation, special attention to the unique needs of clients, autonomous performance, and a large dose of responsibility for client welfare'" (p. 8).

"If these matters were open for debate in 1988," said Stuseven, "I gather teachers had not progressed very far in the struggle for autonomy. I thought that we have regarded teachers as professionals for far more than 100 years."

"We have," said Teaone, "if you are careful about the distinction between 'being a professional' in the way you do your work, and 'professionalizing' an occupation. Many people were willing to accord teachers themselves the status of professionals, placing considerable trust in them and acknowledging their expertise in how to instruct children. However, this is a different matter from according an occupation the status of profession, wherein a highly codified body of knowledge, complex and sophisticated practices, and a binding code of conduct have the effect of limiting entry to the occupation, enhancing the prestige of those who do enter, and frequently conferring wealth and position on those who remain in the field."

"This is most interesting," remarked Stuthree. "We were willing to treat teachers as professionals, but not accord them the occupational status of profession?"

"That's close," responded Teaone. "But do not forget that, at the time, there were strong values about education being the property of the citizens of a state, with the governance of schooling in the hands of the local community. Thus people may have worried over the impact of teacher professionalization on their ability to retain local control of education."

"Ah, I keep forgetting that these were still times of local control in education," said Stuseven. "Given our forms of education today, it's hard to keep in mind this notion of schools being creatures of their communities."

"I'm not so sure that what replaced it is any better," noted Stuthree.

"My sentiments are similar to yours," said Teaone, "but I think we have taken a turn that we're not yet ready to take. Is everyone clear on the notion of professionalization?"

Stuseven came back with, "What's hard for me to grasp is how advocacy for alternative certification and for professionalization could be taking place at the same time. They seem like offsetting initiatives."

"Exactly what I was wondering when I was reviewing this material last night," said Stusix. "On the one hand, some persons and groups (Carnegie Forum, 1986; Holmes Group, 1986; Wise, 1986) were arguing for professionalization, while others were advocating for alternative certification ("Alternative certification," 1989; Council for Economic Development, 1985; Kearns, 1990). Professionalization, so far as I can tell, calls for extended preparation and highly controlled forms of entry into teaching, while alternative certification opens easy and fast forms of access. How could both these positions be argued simultaneously?"

"The answer might be found in looking at who was doing the arguing," suggested Teaone. "Consider what I said about community oversight of schooling, and how the professionalization issue bears on the notion of local control."

Stusix responded almost immediately. "In the same data base section that I found Darling-Hammond and Berry, there was a work by McDonnell (1989). She argued that there is conflict between what she called 'democratic control' and 'professional control.' I noted a sentence early in the work that seemed to be the key idea: 'In the extreme, the issues distinguishing democratic control and professionalism come down to a fundamental question of whether education is best controlled by lay decisions expressing majority preferences or by professional decisions based on practitioner knowledge and expertise'" (p. v).

"What is it that you conclude about alternative certification from this?" asked Teaone.

"I would surmise," answered Stusix, "that the advocates for alternative certification favored democratic control, while those pressing the case for traditional or reformed teacher education favored professional control."

"That certainly makes sense to me," said Stuone, who was the first to open this discussion of alternative certification. "When I first encountered the idea, I noticed that its strongest advocates were businessmen (Council for Economic Development, 1985), including the chairman of Xerox corporation (Kearns, 1990), as well as state and federal politicians. Even the President of the United States and the Secretary of Education at the time were advocating for expanded initiatives in alternative certification ("Alternative certification," 1989; Cavazos, 1990; Mangan, 1990.)

"My sense is that those who favored alternative certification were not in favor of extending the teacher education curriculum, expanding it, for example, to a 5- or 6-year program," continued Stusix. "Advocates for alternative certification would not approve of extended periods for supervised field experience, nor were they likely to favor additional courses in special education, human diversity, and instructional technology. However, teacher educators typically viewed these programmatic changes as part of the professionalization agenda. They argued that there was a greatly expanded knowledge base, which required extending the period of training and internship in the school setting. The supporters of alternative certification probably viewed these programmatic changes as gross self-interest on the part of teacher educators."

"I wonder just what effect these two forces had on one another," mused Stuseven. "The professionalization agenda certainly offered a stark contrast to alternative certification, and perhaps thereby provided a basis for examining the weaknesses in many of the alternative certification initiatives. At the same time, alternative certification provided a way into teaching without all the trappings of a teacher education program based on the tenets of professionalization. I gather that because no one could demonstrate, in the late 1900s, any great harm from alternative certification programs, they tamed much of the rhetoric and claims of the 'professionalists.'"

"That may be," said Teaone, "but do not underestimate the impact of democratic control on the professionalization agenda. Moreover, it is important to take note of two factors that played a role in the eventual resolution of the tension between alternative certification and traditional teacher education programs. One is the economic advantage to the prospective teacher of alternative certification, given that it is faster and cheaper than traditional teacher education (at least for those who already hold baccalaureate degrees). The other is the worth or value of alternative certification that accrues *merely as a result of* poorly done traditional teacher preparation. For the moment, it may help us to assume that we are discussing alternative certification efforts and traditional teacher training programs that are *both* as well done as it is reasonable to expect given the state of knowledge and the availability of resources at the time."

"It's still not clear to me," said Stusix, "whether the politicians embraced alternative certification because it fit nicely with the choice and deregulation agenda that was so prominent at the time, whether it was a way to get around what they regarded as entrenched teacher education programs, or whether they saw themselves struggling to maintain democratic values in the face of a professionalization juggernaut that threatened to diminish democratic control."

"Perhaps it was a combination of factors," replied Stutwo. "As I said before, alternative certification was an idea that seemed to be in the right place at the right time."

"The issue of democratic versus professional control may be even more complicated than we think," said Stuthree, "inasmuch as the nature of democratic control was contested at the time. Was democratic control a form of control that was exercised at the local community level, the state level or the federal level? There is some evidence that it wasn't at all clear at the time" (Kirst, 1988).

"All the makings of a first rate clash of views are present in this issue," explained Teaone. "Consider the words of one of the Assistant Secretaries of Education, Chester Finn, just before he left his government post:

> Well, the big tussle now is going to be over who is in charge. Five years ago, something remarkable happened. . . . Governors and legislators and business leaders began to make the big decisions about what was going to happen in American education. . . . But what is happening is that the profession is fighting back and trying to retrieve control, and it is doing so under the heading of professionalization and autonomy and school site management, and I think it's a very sophisticated campaign by the profession to put itself back in the driver's seat. It carries with it the suggestion that the lay policy makers should butt out. And I think that would be a horrendous blunder for this country." ("Exclusive interview," 1988).

"Well, said Stufive, "not much doubt where he stands on the issue, is there?"

"No, and from what I can determine," said Stuthree, "he's got a point about the nature of the conflict. This may or may not be a conflict between lay and professional control, as McDonnell contended in 1989, but it surely seems like a conflict between political and professional control. It might even have been a contest between different levels of political control, especially at local, state and federal levels."

Looking at Teaone, Stusix said, "I hope you're not going to tell us that this conflict also ended in a kind of draw, and that there's no telling who came out on top."

"Even in 2092," Teaone said with a smile, "we want winners and losers. Perhaps that's why we would rather watch a sporting event than a slice of social and political history. Winners and losers are less common in history that we like to think, especially in policy matters of the kind we are discussing."

"We accept that," said Stusix, "but do you have a sense of how it turned out?"

"I think it's fair to say that both sides got their way," Teaone replied. "There were sufficient objections and concerns about professionalization, even among teachers and teacher educators, and sufficient concerns about quick, untutored routes to licensure, that both sides conceded the other had some points in its favor and that compromise was in order. That compromise was reached, as I think you already know, by the Interstate Licensure and Certification Accords of 1997."

"So there really are some happy endings to policy wars," mused Stufour.

"That's a matter of opinion," said Teaone. "Getting agreements across the states on licensure did not resolve all the tensions between lay and professional control, and it certainly did not resolve the issues of local, state, and federal oversight for education."

"Where did the teacher education community stand on all of this?" asked Stuone.

"These different political agendas placed a great deal of pressure on teacher education. It soon dropped the adjective 'traditional,' and made a major contribution to articulating a common understanding of the beginning teaching," said Teaone.

"Little did they know the fundamental changes alternative certification and the professionalization agenda would bring for them," said Stuthree.

"True," said Teaone, "but that's another subject. We'll come to it soon enough in our studies."

Part IV. Reconsidering Alternative Certification

One hundred years from now we may see that alternative certification was not very important in and of itself, yet it may be viewed as an important contribution to the complex mix of forces shaping the education of educators. Though it may not attract, over its lifetime, sufficient participation by career entrants to stand as a vital independent factor in the initial preparation of teachers, alternative certification will not be without influence on teaching policy. As a programmatic initiative, it is likely to have several key effects.

One of these effects is drawing attention to the pitfalls of emergency licenses, wherein a local education agency can obtain short term teaching credentials for almost anyone, with virtually no preparation for the classroom. While not typically as thorough and inclusive as traditional teacher education, alternative certification, if it is done properly, promises to be an improvement over the practice of granting emergency certificates. Another effect is the provision of a mechanism to induct academically prepared persons into teaching who would not select this career were they required to complete traditional teacher education programs. A third effect may be to alter the balance of power between teacher education institutions and school districts in the design and offering of initial teacher preparation programs. A fourth effect of alternative certification may be as a counterforce to the professionalization movement in teaching.

While some teacher educators, educational leaders and policy makers are calling for 5 and 6 year teacher education programs, with 1 or 2 years at the graduate level, plus rigorous and extended examinations for entry into the profession, alternative certification provides the option of near-immediate entry into the field with minimal follow-on of college coursework. In effect, at the same time the professionalization advocates are signaling that preparation for classroom teaching takes years of study and training, the alternative certification advocates are signaling that one can enter the classroom rather quickly and easily, so long as one has the proper academic credentials and a high degree of commitment.

It is difficult to detect, in the year 1992, how initiatives to professionalize the occupation of teaching and to expand programs of alternative certification will interact with one another over the next 5 or so years. Alternative certification might, as just mentioned, act as a countervailing force to professionalization. One consequence of this counterbalancing is that traditional teacher education programs might continue to be viewed as the usual and customary form of preparing for entry into the teaching profession. Another possibility is that alternative certification may become increasingly popular as a form of career entry, leading to strong competition between it and traditional teacher education.

A third option is an amalgamation of alternative and traditional programs, wherein career entry is accomplished through some variation on alternative certification, while career advancement is dependent on forms of continuing education that look something like traditional teacher education looks today. The likelihood of this third option is enhanced if career ranks or levels are established, wherein a teacher advances through the ranks as a result of experience, training and assessment. Were this restructuring of the teaching career to occur, it is likely that teacher education institutions would be called upon to participate in the advanced education and training required for progression through the ranks.[3]

There is a complication to this somewhat simplified policy analysis, and that is the involvement of the federal government in matters of initial teacher preparation. As noted above, recent policy statements from the U.S. Secretary of Education, as well as proposals contained in pending federal legislation, call for increased federal involvement in alternative certification. This advocacy places the federal government in an arena in which it has not previously been involved—the preparation of classroom teachers.[4] Until this time, this activity has been fully reserved to the several states. Whether the federal government will continue to be involved, or will back away (or lose interest) as the political salience of educational issues recedes is an open question.

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[3] The formation of hierarchical ranks within teaching as advocated, for example, in the Carnegie and Holmes reports, is something that, all things being equal, I would rather avoid. My reasons are set forth in Richardson-Koehler and Fenstermacher (1989); see also Noddings (1990).

Should the federal government continue to press the case for alternative certification, with the concurrence or capitulation of the states, alternative certification may turn out to be more than a "bit player" on the teacher education stage. With some governors (e.g., former Governor Carruthers of New Mexico, see Blumenstyk, 1990; Olson, 1990) contending that it may be time to close down the colleges of education in their states, conjoined with a heavily leveraged federal initiative in alternative certification, it is possible that alternative certification will evolve into the more usual and typical form of initial teacher preparation, while collegiate-based programs wither away.

This reversal of roles is not likely to result in any great lament by the American public. It is commonly known that practicing teachers are very sparing in their support for the programs where they received their initial teacher training (indeed this phrasing may be altogether too kind). Policy and law makers show little interest in colleges of education generally, save for their function as preparers of teachers. Indeed, most of the rest of the faculty and administration on college and university campuses are frequently indifferent to departments or colleges of education, again save for their role in teacher education (Goodlad, 1990). To the extent it is perceived that schools of education do not perform well as educators of teachers, there is likely to be little outry in sympathy for colleges of education should alternative certification become the predominant mode for entering a career in teaching.

It is sad to note that were this scenario to come about, wherein alternative certification is the predominant, perhaps exclusive, form of entry into teaching, there would be little realization of what has been lost by the withdrawal of colleges and universities from the professional preparation of teachers. Not a great deal is known about what the collegiate setting brings to teacher preparation that cannot be brought by alternative forms of teacher preparation. With some notable exceptions, departments, schools, and colleges of education have not pressed for a common understanding of the larger purposes and ends of teacher education. Groups of teacher educators have begun to affiliate (e.g., the Holmes Group, 1986, 1990; Renaissance Group, 1990) for the purpose of seriously understanding and cultivating the education of teachers in college and university settings. But too often these groups have become preoccupied with the "Issue du Jour" rather than remaining focussed on the longer range goals and purposes, and on the nature of the necessary connections among tertiary, secondary, and elementary education.

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[4] Penelope Earley, Senior Director at the American Association of Colleges for Teacher Education, Washington, DC, brought this point to my attention.

As the dialogue and debate over alternative certification continues, it would be helpful for teacher education institutions to say, and be in a position to show, that what they do is critical to the effective education of teachers and their pupils, and that this cannot be done as well, if it can be done at all, in programs of alternative certification. As suggested in part two of this essay, the general approach to take in such an inquiry is to ask about the effects of preparation on a teacher after 4 or 5 years of teaching experience. A well-designed and executed preparation program, founded on fundamental moral and epistemological principles, should yield teachers who can learn more from experience, who can more accurately and honestly appraise their own performances, who are better at incorporating new theory and research into their practice, and who have such a superior mastery of both the language of education and their own work that they can share this knowledge and understanding with other teachers, with the parents of their students, and with the students themselves.

This conception of reflective teacher education fits well with the strengths of higher education settings. Colleges and university campuses are intended and designed for contemplation and reflection, for taking one's own experiences seriously and seeking to understand them in relation to the larger human conversation. In a professional school or college, this reflective and contemplative attitude is connected to practice in ways that permit a back-and-forth between thought and action, theory and practice, research and decision making. With this dynamic relationship between reflective consideration and considered action the higher education setting is without peer (provided, or course, that it has not lost its own way).

Here, then, may be found the key differences between what we have called traditional teacher education programs and alternative certification. Carefully designed alternative certification programs offer a way to deal with teacher shortages that are superior to the granting of emergency certificates; alternative certification offers a career path into teaching for the academically qualified person who seeks a teaching position but lacks the means or opportunity for a period of sustained professional. Alternative certification relieves some of the political pressure built up by the demand for choice and for a deregulated economy; finally, alternative certification provides a programmatic alternative for those politicians who want to do some teacher education bashing without great fiscal consequence or much damage to their reputations.

Yet with all of these possibilities, it is, in the end, vital that we not lose sight of what traditional teacher education accomplishes when it does its work well. In a time when so many advocate for restructured schools, for greater decision autonomy for teachers, and for connecting the schools more intimately with homes and communities, it is more important than ever that teachers have the capacity to appraise their actions, evaluate their work, anticipate and control classroom consequences, incorporate new theory and research into practice, and possess the skills and understanding needed to explain their work to other teachers, and to students and their parents.

These reflective capacities are not innate to human beings, nor are they acquired quickly. They are not acquired during a planning period sandwiched somewhere in between classes, or during evening "mini-courses" after a full day's work. They are, rather, the outcome of sustained and rigorous study, and of dialogue and exchange with master teacher educators. They are the fruits that alternative certification is not likely to produce. They are also the fruits that many teacher education programs have yet to produce.

Given that both traditional teacher education and alternative certification have some distance to travel in meeting the more profound ends of teacher education, there may be value in ceasing to think of them as oppositional to one another. Perhaps the best course of action lies in blending these ideas, wherein the advantages of being close to practice are maintained, but so are the advantages of reflective and critical approaches to pedagogy. This blending of the best from both approaches to teacher preparation would require new models of teacher education. The invention and implementation of such models may be one of the lasting benefits of alternative certification's challenge to traditional teacher education. Or, as noted previously, there may be few or no benefits from alternative certification. The eventual outcome, like the outcomes of all such complex matters of policy, depends on time and circumstance, as well as the vision and will to create the future as we believe it should be.

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